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OCTOBER 2015

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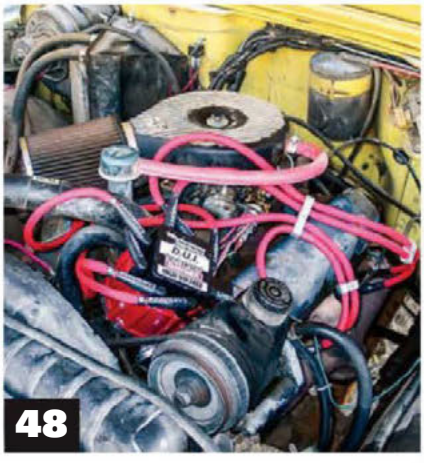
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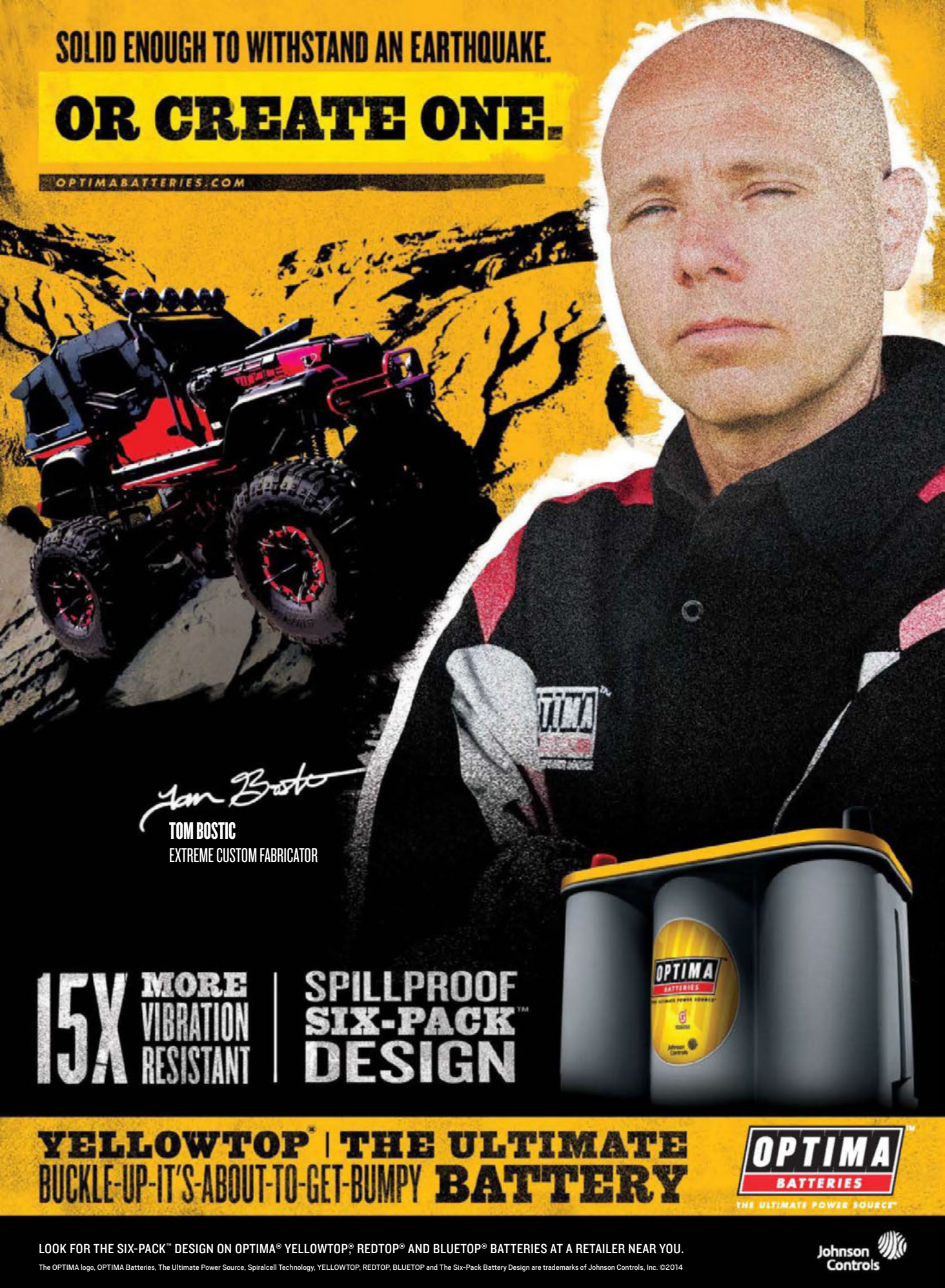






ON THE COVER

Harry Wagner snapped the YJ in the wild, but our hearts go out to our friend, colleague, and former editor, Pete Trasborg, with a logo designed by David Obney and free for anyone.


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TRAIL HEAD



I've always felt a connection to *Jp*'s audience. Whenever I put fingers to keyboard, it's as though I'm addressing a room full of beloved friends. It's something that's unique in this industry and what I enjoyed most during my 12 or so years at *Jp*. But writing this particular Trail Head is as hard and distasteful a thing as I've ever had to do in my career as a journalist. Pete Trasborg came into the *Jp* family back in 2005, and for almost a decade, we were part of a team that cultivated this magazine into what it is today. We spoke more than once about our shared appreciation of the *Jp* audience, and because of that special bond, I volunteered to convey the sad news here that Pete passed away in his sleep in the early morning hours of May 15. In addition to a damn fine magazine guy and just an all-around good person, Pete was a bona fide hardcore Jeep guy with a seven-slat heart. I can't think of a better compliment to bestow on a person who lived, breathed, and slept Jeeps than that.

A few days after his passing, a couple hundred of Pete's friends gathered together to share some stories and remember the many, many good times we shared. I'm sure rather than talk about what a genuinely nice and caring guy Pete was, he'd rather we do the same here and have a laugh or two reminiscing about past *Jp* articles and behind-the-scenes stuff. Like the time his red MJ's engine compartment caught fire and melted the latch release cable preventing the hood from opening. Pete stemmed the flames from underneath long enough for the fire department to arrive and cut the hood open. He called that Jeep the Fire Truck from then on. Or the time I gave him the OK to drive his M-715 to Moab and back for Easter Jeep Safari with his girlfriend, Missy. He asked only a couple weeks before the event and the truck was in pieces—nowhere near drivable. It was pure comedy to watch the reality of what needed to be finished washing over his face as my reply, "do it," hung in the air, but he muscled down and made it happen, and it was a great story. Or the time he drove from New Jersey to California with a trailer, horse-trading for parts and pieces to create a CJ-8 along the way—a frame here, a tub there, installing an inline-six in the parking lot of a Walmart there. Epic. Or when he bought a used cop car and transplanted its engine and transmission into his YJ in the underground parking garage of our old Wilshire Blvd. building in Los Angeles. Security and building operations had a fit. Classic Pete. Or the battery test story we did when he built a huge amp-sucking test box with lights, speakers, power amps, and (probably) an electric cotton candy machine and waffle maker. He then obsessed and persevered over test parameters and data collection for six weeks before the test. That battery story remains one of the most thorough, well-produced pieces of tech *Jp* has ever produced.

It was Pete's way. He didn't half-ass things. He dove in headfirst and researched, plodded, experimented, and failed time and again until the outcome was successful. He was a damn bulldog of a human being, as loyal as he was tenacious. And his sense of humor was as well-rounded as his knowledge of Jeeps. He never once got upset at my many jabs about his penchant for over-electrifying his vehicles, bringing a 2WD MJ to compete in the Sh!%box Derby, or any of the hundred other things we'd poke fun at each other over. And it was actually Pete who pointed out his resemblance to the character, Randy, from the *My Name is Earl* TV show and developed it into one of *Jp*'s most popular columns, Randy's Electrical Corner. He was our guy. At every Jeep event, at every Jeep milestone, and at every Jeep point of interest, Pete was there behind the scenes with a smile on his face, a camera around his neck, and a joy in his heart that comes from doing what you truly love. In his case, it was connecting with a couple hundred thousand other Jeep nuts and sharing a passion for these vehicles and the lifestyle they afford. We'll miss you, Pete, but we'll never forget you. Lucky be us for having the opportunity to call you friend and share these pages, trail rides, and adventures for the past 10 years. Godspeed, brother.

—Christian Hazel
jpeditor@jpmagazine.com

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EDITORIAL
Network Content Director **Rick Péwé**
Editor **Pete Trasborg**
Managing Editor **Lee Lovell**
Technical Editor **Ali Mansour**

ART DIRECTION & DESIGN
Art Director **Alan Huber**

MANUFACTURING & PRODUCTION OPERATIONS
VP, Manufacturing & Ad Ops. **Greg Parnell**
Senior Director, Ad Operations **Pauline Atwood**
Archivist **Thomas Voehringer**

READER SERVICES
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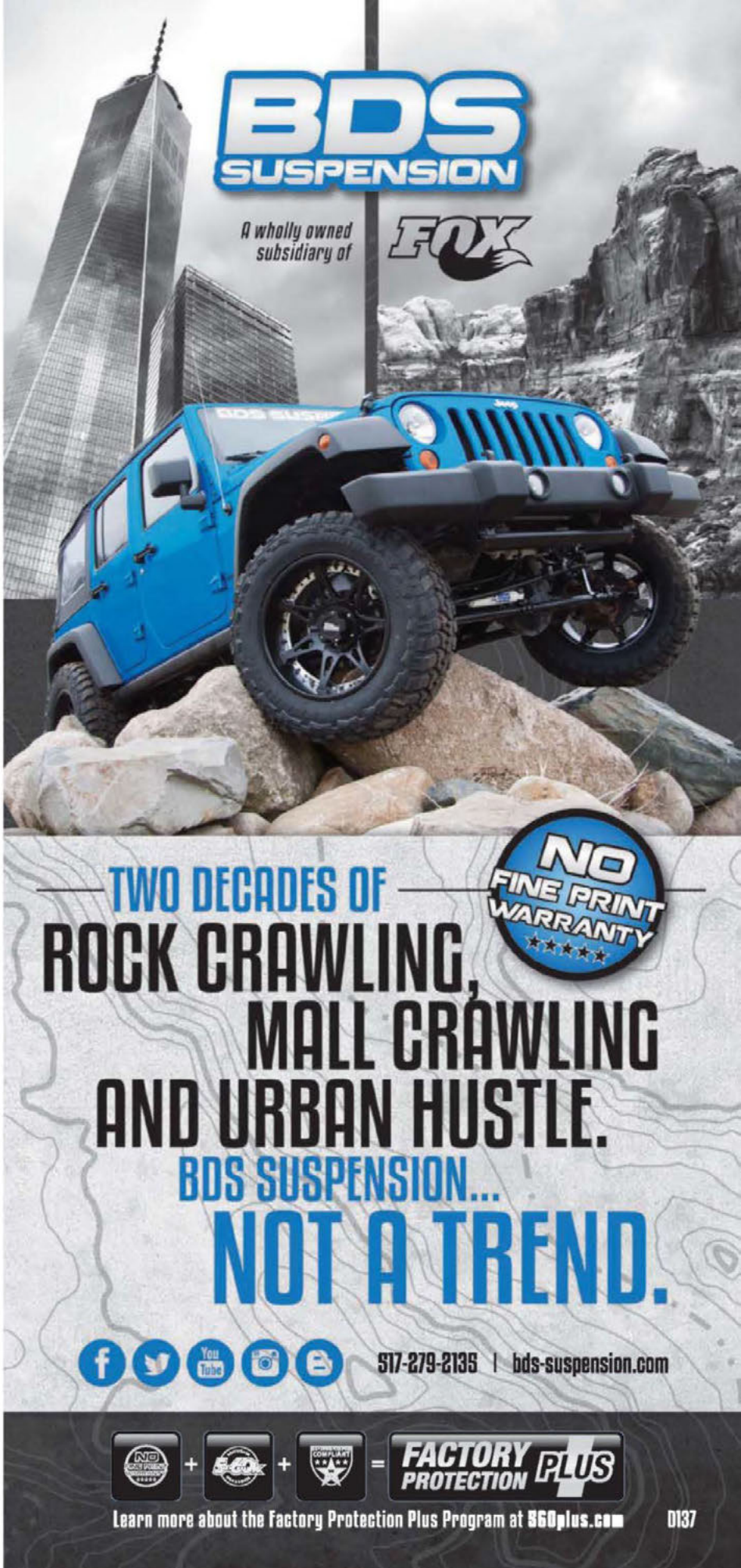
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MAILBAG

By John Cappa
jpeditor@jpmagazine.com



Let Them Be Wrong

The June '15 issue was just spectacular! The Trail Head column was so hilarious that I had tears in my eyes while roaring and bemoaning the fate of all those girlfriends. In the Dispatch news section, you mentioned that *Consumer Reports* has some reservations, to say the least, about the Wrangler Unlimited. Well, here is a little video of the testers at Consumer Reports making absolute fools of themselves with repeated ignorance about what a Jeep is: http://bit.ly/1PyZ0Pu. Considering this travesty of New York suburban prejudice and small econo-box car values, I would suggest that the testers at Consumer Reports be confined to reviewing washing machines and CD players, maybe they can get those right.

Regarding Quote Without Story 2 referring to "incremental improvements." The originator of that quote did not specify what he thought "incremental" meant, but technologies like variable displacements engines, gasoline compression-ignition (like a diesel), multiple fuel injection, ceramic cylinders and pistons, ultrasonic fuel-vapor atomization, CNG fuel, and others, are hardly "incremental." None of this has anything to do with hybridization. And if you want to improve a transmission over the long haul, here is a great idea: it's called a manual.

Bernie Kressner
Appleton, WI

Actually, Consumer Reports *nailed many of the drawbacks of daily driving a Jeep Wrangler. It's not at all comparable to other modern vehicles in more ways than one. And for some of us, that's what makes the Wrangler great. In an odd way, you might want to thank* Consumer Reports *for chasing potential neophyte buyers out of the Jeep Wrangler and into something more roadworthy. When non-traditional Jeep consumers buy a Wrangler, they generally have higher expectations. These buyers may make enough noise and request for a more refined Wrangler that doesn't work as well off-road for the rest of us. Ultimately, as Jeep and off-road enthusiasts, we're better off if* Consumer Reports *doesn't understand the Wrangler and posts reviews like this.*

As for the incremental comment, the increased costs of new fuel-efficient technology slows overall advancement. That's why we'll likely only see incremental improvements. It also takes time to build up infrastructure to support the new technology. You can't exactly fill up your vehicle with hydrogen or even CNG at every street corner like you can with traditional fuels. It can take years or even decades for a society to embrace and adapt to a new fuel source.



Needs to Google "Satire"

Regarding "Stop the Cruelty" (May '15), I don't know who J. Jones is or his/her representative value to *Jp*, but I will be happy never reading anything from this idiot again. There aren't enough adjectives to describe the extensive stream of moronic, misogynistic comments masquerading as commentary. I can hardly believe this embarrassment survived editor approval. The fact that you took the high road in defending Katie should only serve to further illustrate my point.

Without getting too detailed about the concept of geographically induced consequences, these are daughters, wives, sisters, and girlfriends. Would the author be so glib if they were saying such things within arm's reach of any of their loved ones and had to answer for it?

While the self-hatred of the author and the clear projected jealousy and anger towards the models is very evident, the perpetuation every ignorant stereotype of women in a single article is inexcusable. Clearly the author lacks the discipline to manage diet, fitness, appearance, and business while resisting hate, preconceived notions, prejudice, stalkers, and jackasses who fling their vitriol without regard to the effects of their actions.

I love Jeeps and I love working on them. Show beautiful women if you like, and I will appreciate it. Humiliating women has no place here.

Name Withheld
Via email

April Fooled?



I think you got me. While reading Mailbag in the June '15 issue, I saw the picture of the of the Feb. '15 cover in the upper left-hand corner. Not recognizing it, I assumed I had not received my copy in the mail and called *Jp* to have it sent out. Your very polite and professional employee stated that no such issue exists and was as baffled as me. While hanging up the phone, it occurred to me that you may have mocked up a cover to have some fun for April Fool's Day. If it's true, you got me. However, I feel sorry for your employee having to deal with us.

Marty Searle
Cool, CA

Actually, there is a Feb. '15 issue of Jp. *Interestingly enough, 2015 is the first year for a February issue.* Jp *is no longer a 10-time a year magazine. Starting in 2015, it became a monthly magazine. So now you don't have to wait as long for the new issue to come out. You may want to get the* Jp *representative on the phone and get the back issue right away before they run out.*

Anti-Aluminum Wrangler Rant

It was annoying to me to read about a possible aluminum unibody Jeep Wrangler in "Future Wrangler" (Aug. '14). I have a '03 Wrangler Rubicon, and I love it. For the life of me, I never understood why they stopped selling the TJ version.

The TJ reminds me of the Land Rover Defender 90, which is still produced overseas today. It was a perfect convergence of form and function. I think it would have still sold well today if it was still available. I would have bought another TJ, I can tell you that.

The newer variant currently sold (JK) is also a good SUV. It could have been sold as something else other than a Wrangler, while still contributing to sales and product offerings, like the Cherokee that came before it. I like them and would consider buying one if I needed something like that and could afford it.

I was upset they stopped selling the original XJ Cherokee as well, but I can accept that. The XJ Cherokee had a cult following in an SUV market that is becoming a lifted car market. It was looked at as uncomfortable, gas loving, stiff-riding by a lot of consumers, and hard to sell beyond its following.



BFGoodrich® Tires, *MOTOR TREND* and *FOUR WHEELER* invited performance driving enthusiasts to submit a short video proving he or she was indeed "driver enough" to lay down the fastest lap time behind the wheel of a 2015 Mustang GT and a 2014 Ford Raptor. Six winners were handpicked from around the country and flown out to Willow Springs International Raceway, just north of Los Angeles, to challenge themselves and each other behind the wheel. To make things even more interesting, another 50 local enthusiasts were presented with the opportunity to sign up through a microsite to partake in the event.

The Driver Enough Challenge consisted of a customized road course as well as a rough and demanding off-road track. The road course challenged participants through a series of fast straights, tight corners and a host of elevation changes. Adjacent to the road course, the rugged off-road track was designed to test the drivers' skills behind the wheel on rough, rocky terrain.

In addition to a classroom "chalk talk," professional driving instructors demoed the fastest lines around each respective course, and our challengers were also introduced to our celebrity BFGoodrich performance pro drivers who set baseline lap times on each course, thus setting the ultimate time to beat.

Brad Lovell has raced and won many off-road races including: Baja 1000, Ultra 4, TORC, and nearly every other off-road discipline. His on-road counterpart , Andrew Comrie-Picard, has won the North American Rally Championship, holds a string of 17 consecutive Rally America podiums and is an X Games Rally medalist.

Lovell and ACP weren't the only two glitterati at the Driver Enough Challenge. Road racing legend Tommy Kendall made an appearance, as did *Motor Trend's* globetrotting Editor-in-Chief, Ed Loh. Additionally, Rick Péwé, Content Director of the *Four Wheeler* Network, offered his insight and tips for the off-road portion.

BFGoodrich® Tires took full advantage of the event to prove its tires were also up to the task at hand. The on-road course featured a group of brand-new 2015 Mustang GT's fitted with g-Force™ Comp-2™ A/S tires, BFGoodrich® Tire's best-ever, ultra-high performance all-season tire. The g-Force™ Comp-2 A/S™ rubber gave the challengers the ability to accelerate faster and brake harder in their quest for fast times.

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The off-road course proved to be the perfect setting for 2014 Ford Raptors outfitted with BFGoodrich® Tire's All-Terrain T/A® KO2 meats. The All-Terrain T/A® KO2's tougher sidewalls, gravel endurance and improved traction all worked wonders on the off-road course as they helped the drivers hook up and push ahead.

Once the dust settled and the track went cold, each challenger's cumulative times and overall performance of on and off-road runs were calculated to determine our winners. Wade Koehl from Cypress, TX, came home with third, Gardner Nichols from Boulder, CO, took second place, and Mike Iler, from Redlands, CA, took home first place and won the grand prize of a new set of BFGoodrich® Tires.

Our pro drivers were astonished with Iler's uncanny ability to lay down consistent, controlled and fast lap times, particularly as he doesn't have any prior racing experience. Iler lapped the off-road course within a tenth of a second of Lovell's pro lap time, and proceeded to beat the on-road pro by nearly a second!

The Driver Enough Challenge was such a success that similar events may be planned in the future. Think you're driver enough? You might get the chance to prove it soon!





I think this move by Jeep to attempt to slap a Wrangler moniker on a unibody is part of an outmoded way for marketing and selling cars still present in domestic automakers. It is sad, but just another sign and wonder of the times.

Dan
Via email

It never fails: Whenever a new Jeep model comes along, everyone calls foul. We've seen it happen when the TJ with "cushy" coil springs replaced the leaf-sprung YJ and again when the "plastic" JK replaced the TJ. And, of course, it will happen yet again when the alleged JL replaces the JK. The JL launch date has supposedly been pushed back to 2018, though, so we'll have to wait and see what Jeep brings to market. Some insiders tell us that the axles will for sure be solid front and rear; no IRS or IFS. It's also said that the axles will be built by Dana, but they will not be the same as the current generation of JK Dana axles. These new JL axles are supposedly stronger and have more ground clearance than the outgoing axles. Sit tight—we'll keep you posted with any new updates.

Ultimately, you can partially thank the government for the discontinued vehicles. The consistently updated safety, emissions, and fuel economy standards put some vehicles to pasture here in the states, while they continue on all over the rest of the world. The main reason the Land Rover Defender 90 stopped selling in the US is because Land Rover did not want to add passenger airbags to the vehicle to make it pass new crash standards. While the TJ is a great Jeep, it was getting long in the tooth. The on- and off-road handling and stability leave a lot to be desired. Technology has improved significantly, so it was time for something that more easily passed crash, fuel economy, and emissions standards. The 4.0L engine is based on a 50-plus year-old design. Don't get me wrong, the 4.0L worked great in several different Jeeps, but it's not the best engine for fuel economy and emissions. It's a bit heavy too.





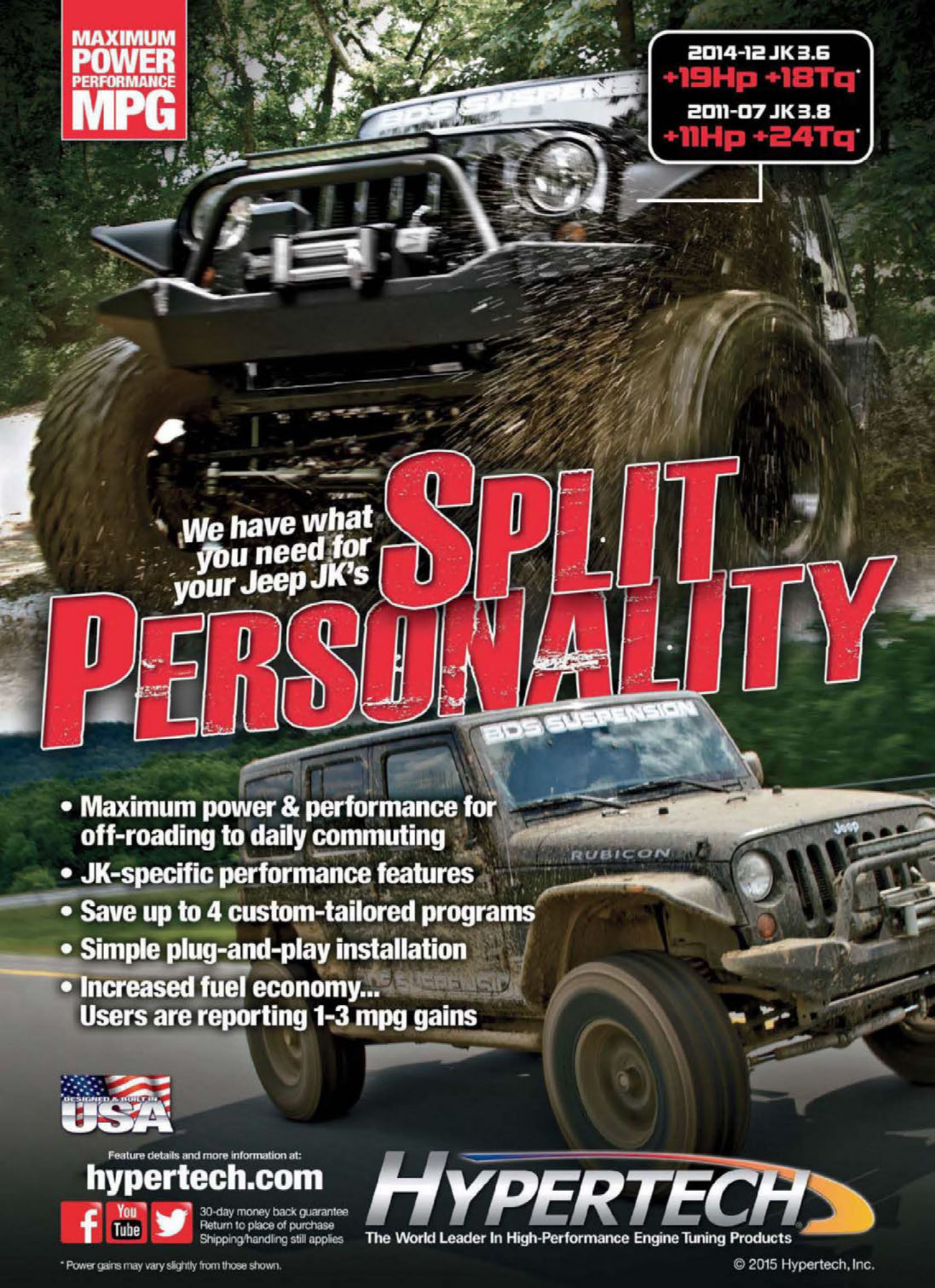
Great Gift

This is my wife, Coryee, and her new '15 JK Valentine's present. This is her third Jeep, and I knew that she would insist on the lift, bumpers, lights, and winch. I figured I might as well do it all right off the bat. Yes, that is the real blue sky of Angel Fire, New Mexico, in the background.

Spencer Hamons
Angel Fire, NM

Spellering Errored

You guys need to learn the difference between "pallets" (flat things that Jeep parts are delivered on) and "palates" (what things taste like to someone). Oh, and just to complete the troika, there are also "palettes" (the things painters use when they're creating masterpieces).


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In "Stop the Cruelty" (May '15) you mention salad, water, Saltine crackers, and Diet Coke as being a few of the things available at the SEMA show that "suit the models' pallets." They must be getting a lot of Diet Coke if it has to be delivered on pallets!

"Gonzo" Dave Peterson
Via email

Beer Brake

As a long-time Jeep owner/fan, I felt a compelled to write in support of Katie's recent admonition against drinking alcohol on the trail (Catching up [with Katie]). I'm a father and have to make sure about getting all family members safely off the trail and home in time for homework and dinner. You driving drinkers put me and my family at risk with your stupid driving (not that I can't be stupid sometimes). Not only that, the trail drinkers also swear on the CB, urinate in the open, and as noted by Katie, have trouble keeping trash in their Jeeps. Please, don't be a dirty stereotype! Stay sober on the trail.

Geoff Vincent
Via email





Pink Jeeps and Jeep Chix Poster

The old pink Willys Jeep Surrey in the June '15 Sideways department sparked a memory for me. Elvis had a Surrey at Graceland. He used to drive it down to the gate and sign autographs.

Also, how can I get a wall poster of Jeep Chix Trisha Glezen from the July '15 issue?

Brandon Koss
Green Bay, WI

Male Mail

I was reading an old issue of *Jp* (Apr. '12), and I saw the letter from "name withheld" titled "Jeep Chix More On" in the Mailbag column. I see that she says her 2, 9, and 12-year-olds respect women. Well, now that her oldest is 14 and either in junior high or high school, how does he act? I have a 14- and a 12-year-old. Yes they respect women, but they still stare at girls no matter where we are. It is called being human and a normal male. As for me, I love the mix of Jeeps and woman, scantily clad or dressed for wheeling. Both can be sexy. I wonder how her husband reacted to her decision to toss his magazine?

Ken Stinking
De Soto, WI

Write Us!

Got a question or comment about *Jp* magazine or the village idiots at the helm? Drop us a line. Don't forget to include your full name and where you're from or we'll make fun of you. Actually, we may make fun of you anyway. Keep it short and to the point or we'll hack and chop your letter as we please. We get a lot of mail, but we read every letter. Unfortunately, we can't print or personally answer every request. We're too busy surfing the Internet on the company dime. Digital images should be no less than 1,600 by 1,200 pixels (or 2 megapixels) and should be saved as a TIFF, an EPS, or a maximum-quality JPEG file.

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DISPATCH

By Tori Tellem
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Jeep News & Rumors

- What do World Surf League and Jeep have in common? Jeep will be the first automotive partner on a global scale to partner up with the league. The '15 WSL Champions will win a Jeep, and Jeep vehicles will be the official vehicles of the surf league.
- '15 Jeep Renegade: Welcome to Kelley Blue Book's 10 Coolest New Cars Under $18,000.
- Employees of Jeep dealerships can get a no-charge, no-debt, that-means-free college degree. It's through a degrees@work program at Strayer Uni, developed in collaboration with Fiat Chrysler Automobiles.



1892 STRAYER UNIVERSITY



Reader Quote Without Story*

*As seen on *Jp*'s Facebook page



Jeremy Welborn RIP Pete Trasborg
Unlike · Reply · 2 · May 16 at 8:31am

Katy Snyder RIP Pete
Unlike · Reply · 1 · May 16 at 8:37am

Scott Heiser Pete Trasborg you are missed friend. I was proud to call you a friend.
Unlike · Reply · 1 · May 16 at 8:06am

Shawn Newman Rip Pete Trasborg You will be missed.
Unlike · Reply · 1 · May 16 at 8:30am

Katy Snyder The day my dad passed Pete was there for me I'm so sad Pete was an amazing man and I'll always miss u friend



Quote Without Story

"When I see a Range Rover on the street, my blood boils, because we should be able to do a thing like that. And we will."

—Fiat Chrysler CEO Sergio Marchionne to Bloomberg Business regarding a luxury Jeep in the future. It'll be a bigger deal than the Grand Wagoneer coming around 2018.

Industry News

- FRAM and Autolite are road-trippin' more than 5,000 miles across the U.S. over the summer to educate about filtration and spark plugs. Go to facebook.com/framfiltration for the scoop.
- Weld Racing is supporting Hot Wheels: Race to Win, which is at The Children's Museum of Indianapolis until August 16, 2015. The exhibit will then travel the country for five years but stop back in Indianapolis every summer. It's designed to get kids excited for STEM studies (Science, Tech, Engineering, and Math) and to learn the science, tech, engineering, and math behind fast cars.
- Premier Performance Holdings, which owns Premier Performance Products and Northridge 4x4, has bought RallySport Direct.







Auto Graphs

- Guess what? GUESS what. Who's on first? Anyway, GUESS, the clothing brand, is collaborating with the Gumball 3000 road rally brand, which means a limited-edition driver jacket as a nod to the 2015 Stockholm to Las Vegas rally.
- University of Toronto engineers in Canada did some studies and found that air pollution might be spreading up to three times farther than previously believed and could explain why there are varying levels of air quality across cities.
- Expect *Fast & Furious* to show up at Universal Studios Hollywood, like, as a ride.
- So, that's 500 million vehicles sold globally for GM.
- *Top Gear* presenters might be headed to Netflix?
- Another question: A serious off-roader is coming from Land Rover's Special Vehicle Operations unit?
- American Lung Association. State of the Air 2015. 16th annual report on air quality nationwide. Most polluted by ozone? Los Angeles-Long Beach, California. In fact, California also banged out the Number One spot for year-round particle pollution and short-term particle pollution, with the Fresno-Madera area claiming that title. Ozone-wise, California grabbed the Top Five spots before Texas jumped in with Houston and Dallas-Fort Worth.
- What rages your road? Expedia's 2015 Road Rage Report will tell you. Texters ranked the highest and good ol' tailgating followed that. You're also not a fan of left-lane hogs, slow pokes, and multitaskers.
- Tom Hoover, called Father of the Hemi, has passed away at age 85.
- So, 4 of the 50 autonomous cars being tested in California streets have crashed since September, although driver inattention is being blamed. Three were owned by Google.
- While we're talking autonomous, Freightliner's Inspiration Truck has been licensed to test on Nevada highways.



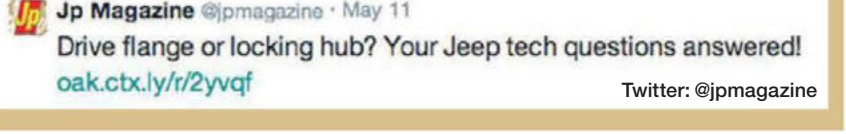
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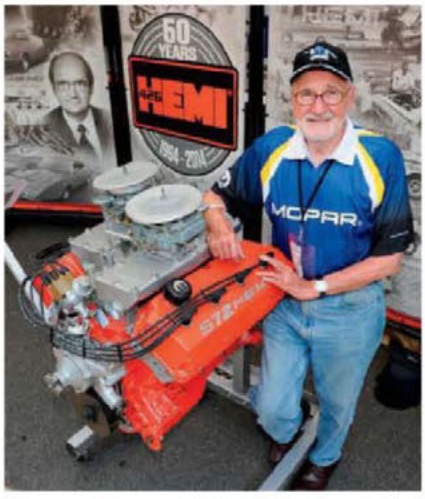
Quote Without Story 2

"I've lived here for 30 years, and I've never seen cameras in a saguaro before."

—City of Paradise Valley resident Randy Evans to Fox 10 News, regarding the Arizona city's decision to plant fake cacti with cameras, presumed to be license plate readers



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Help us put together our Sideways department! Send us stories and photos for:

Jeep Chix: We want to see you or your gal or some gal you know with a Jeep. Give us her name, the circumstances, the situation—the details.

Stuck/Flopped/Rolled: How come none of you are sending us photos and stories for this version of Sideways? Are you all staying on baby trails? Where are photos of cool carnage and stuck Jeeps?

Vintage and Military Jeeps: We like old-timey and military things. Please us with a pic, story, names, Jeep.

In addition to the words, here are the photo requirements:

- Maximum-quality JPEG, BMP, or TIFF file.
- No less than 1,600 by 1,200 pixels (about 2 megapixels).
- No PDFs or other formats. We just can't use them in the magazine.
- Email the materials to jpeditor@jpmagazine.com with the subject line: Sideways.



Where the Jeeps Are

Have an event? Let us know! Remember the magazine needs about four months of notice. Just follow these steps:

- Name of event:
- Date(s) of event:
- City/State of event:
- Venue for event:
- Website for readers to learn more about your event:
- Why your event is cool in five words or less:
- Have a high-resolution photo from a previous event? Feel free to send it to us and we might just include it.
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THE TRUTH ABOUT...

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Shown: 1991-2006 Jeep Wrangler 4.0L

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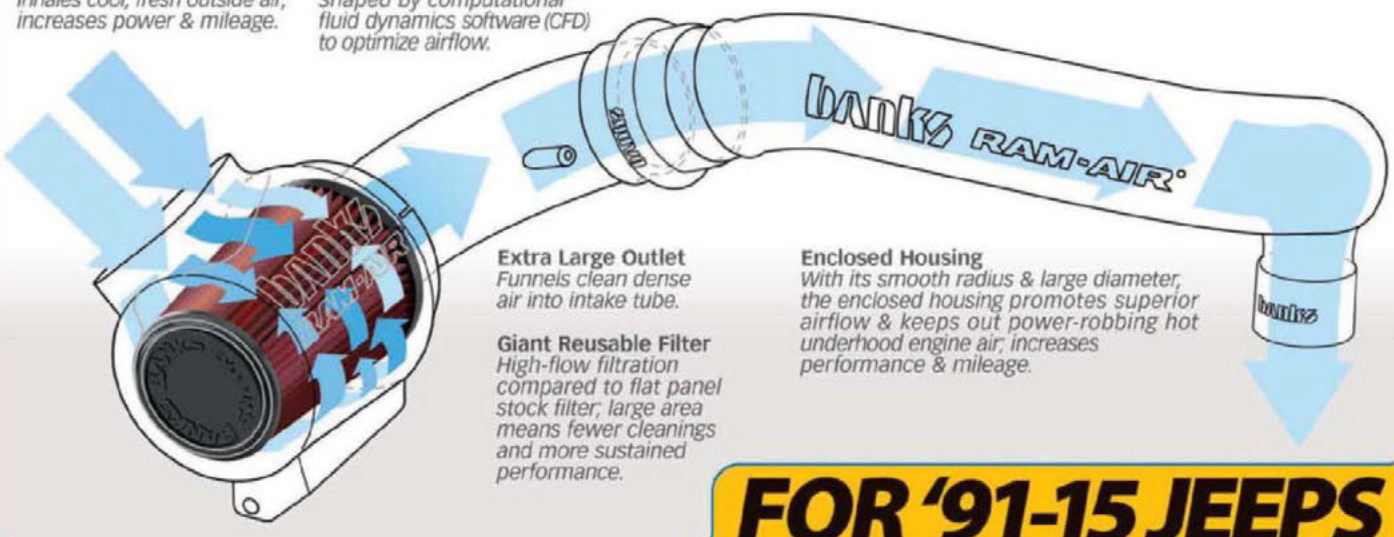
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SUSPENSION EVOLUTION

EVO Manufacturing's bolt-on coilover kit

By Ali Mansour
jpeditor@jpmagazine.com
Photography: Ali Mansour



Success comes to those who work hard for it and building a Jeep is no exception. We all want a Jeep that works well on-road and off, but not all of us have the skill set to create said vehicle in our home garage. In the past, this kept Jeep owners away from more advanced modifications as the fabrication and complexity of the task at hand was often more than they could or wanted to handle. With the introduction of the Jeep Wrangler JK in 2007, the off-road hobby changed drastically.

Where the aftermarket was slow to warm to the previous '97-'06 Wrangler, the JK aftermarket was steady and more advanced out of the gate. With years gone by since the first JK rolled off of the lot, the aftermarket hasn't slowed. A great example of this can be seen with EVO Manufacturing's Double-D bolt-on coilover and long-arm suspension system. What used to be a complex undertaking of fitting long-arms and coilovers under a Wrangler is now an easy bolt-in process.

Included with the EVO suspension system is a set of front and rear King 2.0 coilovers, which are specially built to EVO's specifications. While EVO offers a less expensive coil-and-shock system, the advantages of the coilovers for our needs was well worth the extra coin. One of the primary benefits of a coilover shock is the ability to have multiple spring rates. The advantage behind this is we can set up the vehicle to retain a plush, factory-like ride quality for the street with the primary spring (upper spring), and pair it with a more aggressive secondary (lower spring) for when we hit rugged terrain.

EVO offer's its bolt-on coilover kit with in both a long- and short-arm package. With the lift-height adjustment ranging from 3 to 5 inches, we were on the fence with which control-arm upgrade to go with. Unlike the stubby-legged TJ, the JK's stock control arms are actually quite long and well suited for our target lift height of 4 inches. Ultimately, the long arms won out as they provide a more optimal control arm angle and are substantially stronger than stock.

To install the kit on our '07 Wrangler Unlimited Rubicon, we went with the EVO-certified installers at Low Range 4x4 in Wilmington, North Carolina. Yes, we cheated a little by having the benefit of a two-post vehicle lift, but in full-disclosure, we had more than just a lift kit going on at once. While this kit is designed to be entirely bolt-on, plan on a full weekend install with a fair amount of cutting and a bit of drilling. EVO does state that welding is optional, so if you do have a metal-merger handy, you can speed up some of the process.

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We started our install at the back of JK. Since the bolt-on coilovers are designed to work with short arms as well, we were able to leave the stock arms in place to get the coilovers hung. To mount the coilover to the axle, EVO uses its Rock Star control arm skid bracket, which removes 1½ inches from the base of the factory control arm and shock mount.



The Rock Star Skids are comprised of 3/16-inch steel, come powdercoated, and have a fully boxed lower skid on the bottom. The high-clearance bracket is entirely bolt-on and can be purchased separately for those simply looking to gain some ground clearance and get their rear shocks farther out of harm's way.





The upper coilover tower will require you to loosen the body mounts on the JK as it sits atop the original shock mounts. This bracket gets bolted using a few existing holes and a large through-bolt, which will need to be drilled through the frame.



The EVO-spec King 2.0 reservoir coilovers come fit with a 150-pound primary spring and 250-pound secondary. This setup offers 12 inches of vertical wheel travel and can be adjusted from 3 to 5 inches of lift.



We set our JK for the 4 inches of lift. This gives us plenty of room (after a little pinch-seam trimming) for 37-inch-tall tires. We opted to weld the provided rear track bar bracket since we had modified our rear axle with an EVO rear axle truss. You'll notice that the EVO bracket retains the stock track bar and raises it at the axle side. This helps increase stability and handling as opposed to dropping it at the frame side.



EVO's Double-D rear long-arm control-arm brackets will require complete removal of the original lower control arm mount and a portion of the rear body mount. Once you have the bracket set in place, you'll mark your holes and drill each through-bolt mounting hole. We know this is a spot that gets hit frequently off-road, so we opted to throw on a few welds to the bracket as well. Note: We dropped the gas tank to fully remove the inside of the original control arm mount.



One of our favorite features of the suspension system is the genuine Currie Enterprises Johnny Joints. Theses rebuildable flex joints are by far one of the most durable joints we've ever tested. For ease of adjustment, EVO uses a threaded collar and pinch bolt so you can dial in the arm length on the vehicle.



Up front, EVO provides its high-clearance four-link control arm mounts. Once the majority of the original upper control arm bracket is removed, you can bolt the bracket in place.

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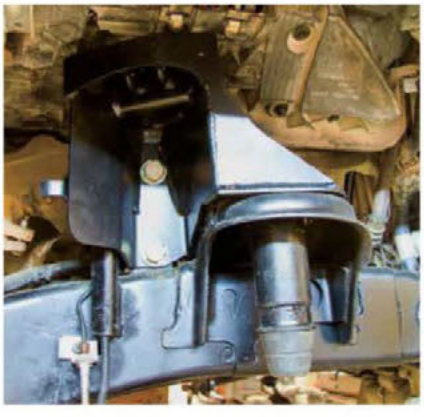
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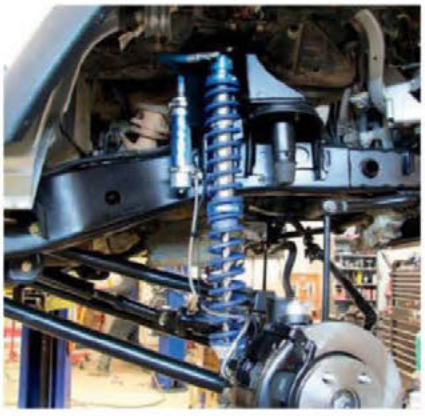
An advantage of going with a four-link with a track bar suspension is that it allows the links to travel more freely. Another plus is if we ever did have a bolt failure, we have three more arms for backup! The lower arms are comprised of 2-inch, 0.281-wall DOM tubing, which we can attest will take a beating. You'll need a new front driveshaft to handle the long travel of the front suspension. We replaced ours with from Rugged Ridge. The front 'shaft upgrade included a 1310 CV, as well as a new yoke for the transfer case.



Bolting in the upper coilover tower is extremely straight forward. We had long removed our inner fenderwells, so we can't speak to how well the tower will work with them, but we do know that there will be some plastic trimming involved.



The lower coilover mount required a little trimming, but like the rest of the mounts, is designed to be completely bolt-on. We decided to throw on a few welds to the bracket since we are known to be a little harder on our equipment than the average wheeler.



Netting us a true 12 inches of vertical wheel travel is a 2.0 EVO-spec King coilover. This gives us the ability to move fast off-road, while retaining a smooth and stable ride on the street. EVO has spent years perfecting the shock valving, which makes all the difference.

While the kit does retain the stock track bar up front, it raises it at the axle to increase the roll center of the vehicle. To accommodate this, a new over-the-knuckle draglink is provided with the kit. This setup works excellent to better the steering and tracking angles of the vehicle, both of which made it noticeably better handling on-road and off.





Since our JK was previously fit with a lift kit, we were slack a few stock components needed. We picked up this factory-replacement pitman arm, along with a new tie-rod end from Omix-ADA. This got our pivot points back in check and allowed us to start fresh with our steering system.

Sources

EVO Manufacturing, 714/879-8913, evomfg.com
KMC Wheels, kmcwheels.com
Low Range 4x4, 910/392-3204, lowrange4x4.com
Nitto Tire, nittotire.com
Omix-ADA, omix-ada.com
Rugged Ridge, ruggedridge.com



On The Trail

EVO suggests a backspacing of 3¾ inches or less, so we opted to up fit our JK with a set of 17-inch KMC Slab beadlocks. Secured to our wheels are 37x12.50R17 Nitto Trail Grapplers. We've found that 8 psi out back and 12 psi up front is the sweet spot for our JK. To go any lower up front, we'll need to add hydraulic assist as the front locker and lower air pressure overwhelm the original steering system.

We wasted no time putting the suspension to the test. This included a week in Moab, thousands of on-road miles, and a treacherous week of wheeling in the Southeast. We've pounded the powdercoat clean off some of the control arms, but we've had zero problems. In terms of performance, we couldn't be happier. With our low lift height, we've definitely smacked the rear lower control-arms and mounts a few times, but it never kept us from defeating an obstacle. For a Jeep that frequently sees tough trails and long highway jaunts, the kit is exactly what we were looking for. Be sure to check out some of our videos on our site to see the Jeep in action.

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This YJ owner followed his own path

By Harry Wagner
jpeditor@jpmagazine.com
Photography by Verne Simons and Harry Wagner

"Where did you buy those fenders?" is a question Colt Diggins gets asked quite often.

"I didn't buy them," he proudly replies. "I built them." We sometimes forget that there was a time not long ago when if you wanted something for your Jeep beyond a lift kit or a winch, you had to build it yourself. We are fortunate today to have such an abundance of bumpers, fenders, rollcages—basically anything your heart desires can be ordered for your Jeep. The downside, if there is a downside, is that the availability of bolt-on products makes it difficult to stand out from the crowd. When Colt started Recon Fabrication, he wanted to create custom products that are different than everything else on the market, and his father-in-law's '93 YJ Wrangler is his business's calling card.

Chassis

The backbone of Scott Bilbrey's Jeep is still the factory '93 YJ frame. YJ frames are much stronger than earlier CJ frames and make a great foundation for custom suspensions. Recon Fabrication did exactly that, grafting a triangulated four-link suspension on the back of the YJ in place of the factory leaf springs. Fourteen-inch travel FOA coilovers were frenched into the framerails on the outside of the tub and are mounted to the top of the axle tubes to maximize ground clearance. The rear axle is located by 1¾-inch DOM tubing fit with Johnny Joints and mounted to a custom axle truss.

To balance the rear coilover suspension, Recon Engineering crafted a front three-link suspension with DOM tubing fit with Johnny Joints. The three-link works in conjunction with 14-inch travel FOA coilovers and Pro Comp air bump



frenched into the frame rails to smooth out rough hits. In order to keep the ride height low and package the panhard bar and drag link, the front of the frame horns were cut off and replaced with more tubing that is not only more compact than the original frame rails but also angled up to improve clearance. The factory Saginaw steering box was modified for hydraulic assist by West Texas Off-Road and feeds a custom 1½-inch DOM drag link and tie rod fit with rod ends and mounted in double sheer at the axle to remove bending loads from the fasteners.

Drivetrain

4.0L engines are one of those components that aren't powerful or sexy enough to swap into another vehicle, but they are reliable and torquey enough that they never seem to give you an excuse to swap them out. That is the case with Bilbrey's Jeep, and the six-cylinder shares space under the hood with a K&N air filter, Optima YellowTop battery, PSC steering

HARD FACTS

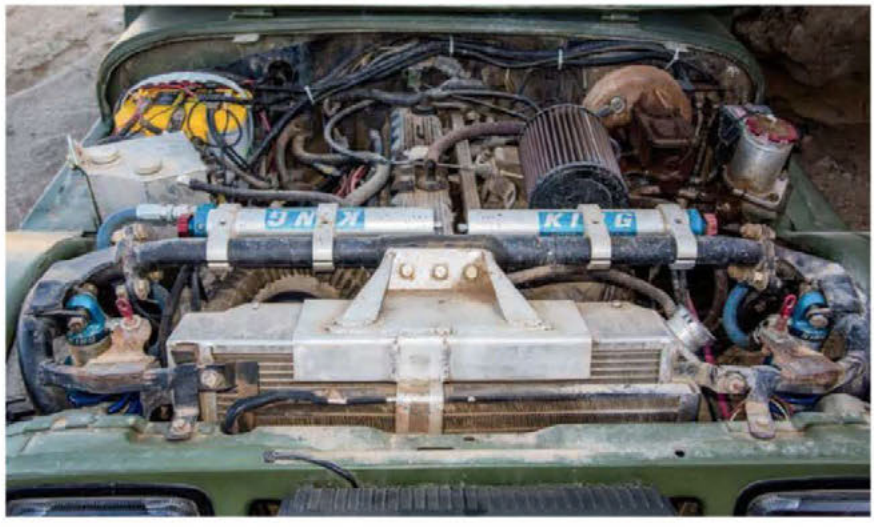
Vehicle: '93 Jeep Wrangler YJ
Engine: 4.0L I6
Transmission: AX15 five-speed manual
Transfer Case: NP231
Suspension: Custom four-link with FOA coilovers and air bumps (front and rear)
Axles: Dana 44 with Reid knuckles, 4.56 gears, ARB Air Locker (front), Dana 44 with 4.56 gears and ARB Air Locker (rear)
Wheels: 16x10 Pro Comp 7089
Tires: 37x12.5-16LT Maxxis Creepy Crawlers
Built For: Recon Fab rolling billboard



EBUILT HERO

reservoir, custom aluminum radiator, and radiator overflow tank originally designed for a Subaru WRX. The shortened radiator was necessary after the modifications to the front frame rails, but despite its small size, it has no issues keeping the engine cool.

From there, power is routed through the original AX15 five-speed manual transmission and NP231 transfer case fit with a slip yoke eliminator and CV driveline. Dana 44 axles are found at each end of the Jeep. The front axle is from a 6-lug, driver-drop Wagoneer and has been beefed up with an ARB Air Locker, 4.56 gears bathed in MasterPro gear oil, and Reid knuckles. The rear Dana 44 is out of a TJ and is filled with matching gears, another ARB Air Locker, and wheel adapters to match up to the front 6x5.5 bolt pattern.



Body and Interior

The body of Bilbrey's YJ is what originally caught our attention. Bathed in drab green, the Wrangler has rolled tube fenders both front and rear that look more like a Kaiser M715 or Dodge M37 than any factory or aftermarket YJ fenders. The front fenders extend up into the hood to provide plenty of room for the 37-inch Maxxis Creepy Crawlers without the need for the Jeep to be excessively tall. In front of the fenders, the grill was shortened to match the modified frame and is complemented by Truck-Lite headlights and a Warn 9.5 XP-S winch.



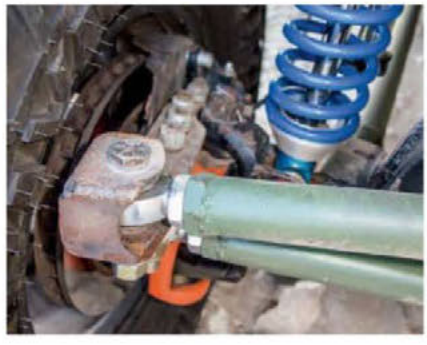


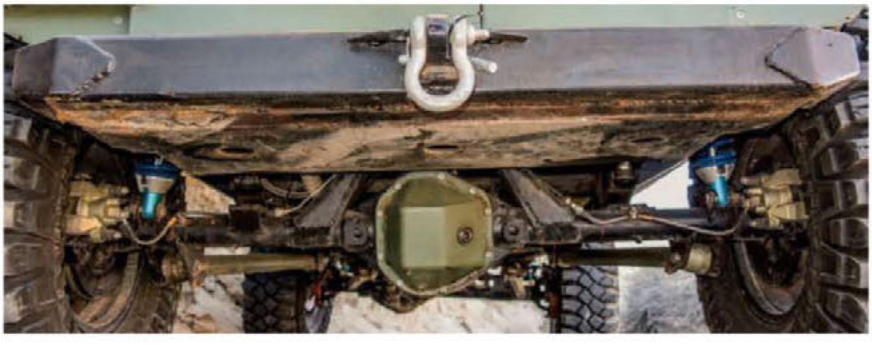



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The tub was cut all the way up to the half doors and skinned with tube and sheetmetal create boat sides that maximize ground clearance. The doors work with a custom canvas soft top that Bilbrey's daughter made that perfectly completes the military look. Inside, the plastic YJ dash was replaced with a flat metal dash filled with Moal Bomber Series gauges. Recon Fabrication built a custom rollcage that surrounds the MasterCraft suspension seats and Tuffy Console, a combo that keeps both occupants and their belongings safe. Behind the half cab, a custom tool box safely holds spare parts and recovery gear in front of the fullsize spare tire.

Good, Bad, and What It's For

This Jeep accomplishes Colt's goal of getting attention for his business, and it works great in a variety of terrain from sand to rocks to desert race courses. If it was a dedicated rockcrawler the Jeep could use lower gearing, and if it was just for sand it could use more horsepower, but this jack-of-all-trades works pretty well everywhere and does so without breaking the bank.

Why I Wrote This Feature

If I haven't already beat home the point, I appreciate it when people build unique Jeeps that reflect their personal style and taste. I understand the appeal of bolting on parts, even if you have fabrication skills. Doing so allows you to get on the trail sooner and not stuck in the garage. The risk you run is having a Jeep that looks like everyone else's, which is an issue that Scott Bilbrey will never experience.

—Harry Wagner


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JEEP BEACH 2015



The toughest wheeling you'll find at Jeep Beach will be on the infield of the Daytona International Speedway. The man-made obstacle course is open to Jeeps registered to the event and has a range of climbs and bumps to give your suspension a workout.

Flooding Florida with a surplus of seven-slot grills

By Ali Mansour
jpeditor@jpmagazine.com
Photography: Ali Mansour



Karnage Motorsports brought out its fullsize and miniature XJ to the show. We actually spotted a large amount of remote-control crawlers on hand. Not surprisingly, the adults largely outnumbered the kiddo's piloting the scale machines.





We know, we know, another four-door Wrangler in *Jp*. But wait, that's no run-of-the-mill JK but rather a custom four-door TJ. By comparison, the Unlimited Wrangler parked in front actually looks small!



Rancho did its best to fit into the Florida Jeep community by hauling in this mega-tall Unlimited JK. The kid in the photo was clearly not impressed.



This YJ took a more challenging line on the course's center obstacle and ended up on its side. Jeep Beach's safety crew did a fine job of getting the rig righted and making sure the occupants were OK in no time flat.



If you're like every other red-blooded American, you've packed up for the weekend at some point in your life and headed to your nearest beach for a getaway. Generally, beach vacations leave you with memories of sunburns, seafood, and at least one obnoxious t-shirt. For Jeep enthusiasts who are looking for more than just sandy shores and overpriced hotels, look no further than Jeep Beach. The five-day event is held annually at the mega-tourist destination Daytona Beach, Florida.

Since you can drive on the beach in Daytona Beach, it lends itself to the Jeep lifestyle in many ways. Even better is the fact that the city's infrastructure routinely hosts huge events such as the Daytona 500 NASCAR race and Bike Week, which means Daytona Beach can easily support waves of people. We landed at this year's Jeep beach to see what all the fuss was about. Rolling in after a week of wheeling on a separate adventure, our dented and dirty JK looked a bit out of place next to the picturesque Atlantic shore.

In terms of being family friendly, Jeep Beach is as good as it gets on many fronts. The fact that festivities are centralized between the Speedway and the beach mean it's easy to go to and from. Parking is plentiful and there are enough activities to make the week feel like a fun-filled vacation. This year was extra special as Sunday's Jeep parade at the Daytona International Speedway broke the previous Guinness World Record for a Jeep parade with an impressive 1,846 Jeeps. For more info on Jeep Beach and to get dates for next year's event, be sure to visit jeepbeach.com.





With the exception of the wheels, this custom Willys wagon was on point. Just as nice as the wood-trimmed exterior was an ultra-clean interior. We waited around for the owner but never did get a chance to meet up. Maybe next Jeep Beach we can find out a little more about it.



Rugged Ridge is a major supporter of Jeep Beach. As such, the company had its latest wares out for display. While we were digging the new exo-top (soft top/roof rack combo), we were blinded by this Jeep also sharing booth space. That's a whole lot of white and pink.



Jeep Cherokees were greatly outnumbered by Wranglers, but that didn't mean that there wasn't a solid presence. This well-equipped white one was one of the cleanest we spotted at the show.



We were beginning to think that we'd only see JKs at Jeep Beach, but a little time next to the water turned up some vintage metal.

Daytona Beach is one of only a few places in the nation where you can still drive on the beach. The sand is extremely hard packed, so you don't necessarily need four-wheel drive to cruise around. Remember to keep your distance from the shoreline. Driving through the ocean is not good for your Jeep or the environment.





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We're guessing this J-truck owner is a real clean-freak. Why else would you have a full standup shower in the bed of your truck?

The low-lift, big-tire trend never really hit Florida. Sure, there was a good mix of practically modified Wranglers, but we were blown away at the amount of huge JKs in the mix.

It's not every day you see a Scrambler and a JK on the same trail. There was no shortage of tire shine at Jeep Beach, but at least you had a spot to get some of the unsightly tire goo off of your tires.







Throughout the course of the week, there are daily and nightly events. Always a hot spot is the vendor show. This is the place to meet with industry owners, buy parts, and get lots of swag.

It couldn't be Jeep Beach without, well, Jeep. Jeep (technically FCA) was at Jeep Beach showing off some of the company's latest offerings, as well as its concept vehicles. The company also had its performance parts division on hand to display some of its latest offerings.



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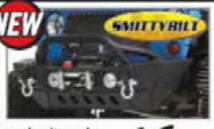
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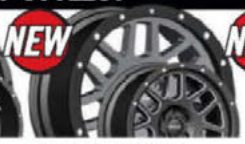
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COSMETIC ADAPTATION

Changing the look of your JK

By Sue Majich
jpeditor@jpmagazine.com
Photography: Pete Trasborg

Most of us have a look we are going for when we build our Jeeps. We picture our Jeeps a certain way, regardless of what we actually plan to use them for. Some of us want the "expedition" look, while others want the "rockcrawler" look. Most of us fall somewhere in between. Our '11 JK is one of those do-it-all vehicles. During an average week, it gets used to commute to work, run to the grocery store, and take trips to the laundromat. On an average weekend it can be found doing anything from taking us on fishing trips to the Eastern Sierra to crawling out at Johnson Valley. Trips up to Wine Country or fossil hunting out in the desert are also well within its job description. The vision we had in our heads for this JK was something that would set it apart from all of the other JKs, yet keep it functional.

Hood, grille, and fenders are a few of those items that are easily changed or modified. When we heard that Rugged Ridge had a new hood and grille coming out, we had to try them. While this story is more about the cosmetic changes that come from mods such as these, keep in mind the performance aspects. Being function-over-form kind of people, we didn't want to lose any performance just for the sake of looks. Rugged Ridge's hood and grille deliver on both points. Trimming the factory fender flares is one of those modifications that is usually born of necessity. Not everyone has the spare coin lying around to be able to buy aftermarket fender flares. With a little time and a few tools, trimming the fender flares is easily accomplished in your driveway and will also help clear bigger tires with less lift. As a vehicle that needs to be able to do everything, we wanted to keep this JK nice and low, while still being able to fit 37-inch tires. At only 2½-inches of lift and with 37-inch mud terrain tires on the way, we knew the factory flares were going to get trimmed regardless of whether or not we cut them.







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COSMETIC ADAPTATION



Here's what we started with. While our '11 JK was fun to drive and took us to some cool places, it was plain. It just looked like every other red JK out there. That needed to change.



The grille goes on easily; just pop the seven plastic trim clips out with a small pick or flat screwdriver. If you have a hood lock, you won't be able to use it with this grille without some cutting on the plastic.



The vents on the new hood are pretty well sized and vent really well. Seat of the pants testing shows us that it does its job. Between the large vents in the middle of the hood and the smaller ones towards the rear on the sides of the hood, it vents well enough that our electric fan doesn't kick on nearly as often.



Being partial to the black hood and grille look and wanting to try out the venting on the new Rugged Ridge hood, made the trimming decision easy. The hood doesn't come with any hardware so you will need to reuse everything on your factory hood. Since ours was pretty worn out, we just decided to leave out the hood insulation pad.



Trimming the fender flares is a very easy, popular, and inexpensive way to change the whole look of your JK. We used some blue painters tape to lay out our cut lines on the front. The curve of the body, from front to rear, necessitated using a string for a long straight edge so that we could keep the front and rear fenders looking even.



A small reciprocating saw worked perfectly for us. A long blade allowed us to cut through the fender and fender support in one shot while it was still on the Jeep. The only tricky spot was at the front corner of the fender. We jammed a piece of aluminum in there so that we cut the flare without accidentally cutting into the sheet metal.



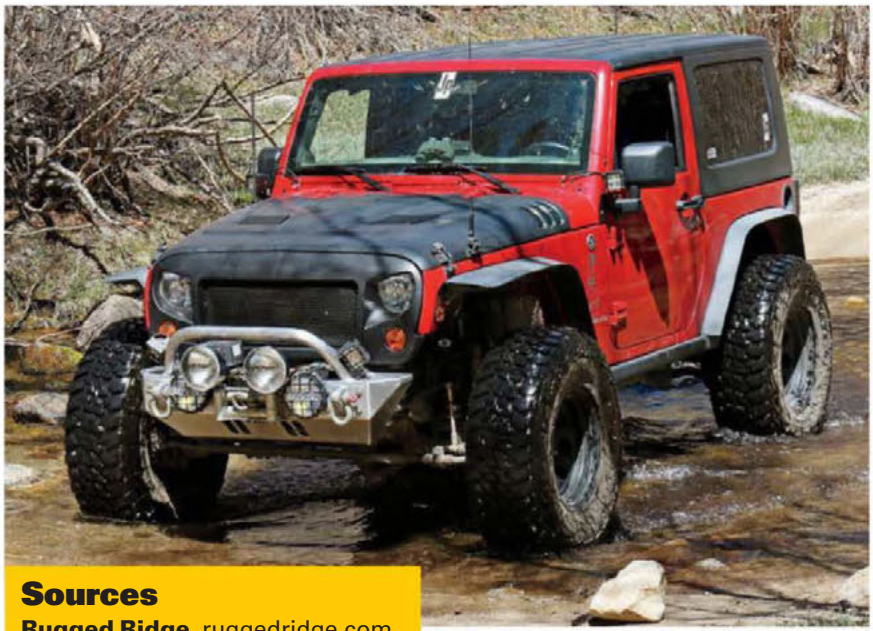
Windshield lights, a HiLift jack hood mount, and radio antenna are a few of the other things you can do, depending on your needs and preferences. We also wanted to keep the side turn-signal light, so we used an amber Cyclone led light from KC HiLiTES.



Aside from looking much better, cutting the flares also opens up clearance between your tire and the flare. This can be important when you get the suspension working, especially if you have oversized tires or your bump stops aren't set just right.



While our JK came with them, these Daystar hood hold-downs definitely help with hood flutter. There are quite a few options out there for aftermarket hold-downs, and this would be the perfect time to replace the loose factory ones.



Sources

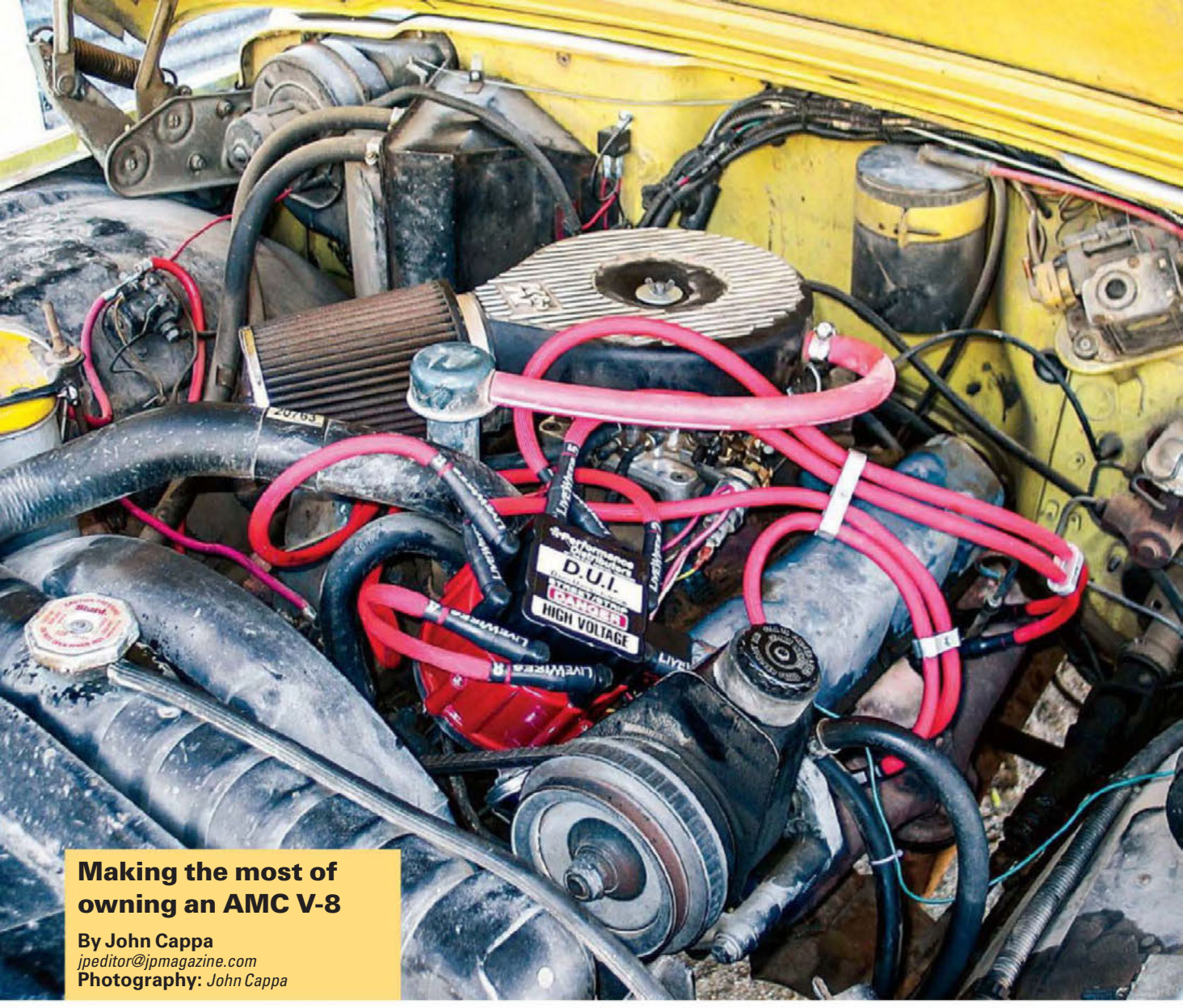
Rugged Ridge, ruggedridge.com

GenRight Off Road, 805/584-8635, genright.com

KC HiLiTES, 928/635-2607, kchilites.com

We are really happy with how our JK looks. The angry eyes on the grille aren't everyone's cup of tea, but combined with the hood, bumper, and the trimmed fender flares, it just works. With its low and wide stance, and 37-inch tires, our JK is looking just mean.





Making the most of owning an AMC V-8

By John Cappa
jpeditor@jpmagazine.com
Photography: *John Cappa*

UNLIKELY EIGHT

If you have an AMC 304, 360, or 401 V-8 engine in your Jeep, it's probably because it was already in the FSJ or CJ you bought. Few people actually make an effort to swap in AMC V-8s, and for good reason. Swap parts and other components are not readily available, and dollar for dollar, a modified AMC V-8 will generally make less power than a comparable and more common Ford or GM V-8 engine. The good news is that your AMC V-8 has more going for it than the simple fact that it's already sitting between the framerails of your Jeep.

Once you get over the fact that many high-performance buffs think you have an inferior engine, you can set your sights to improve on what you already have, without totally breaking the bank. At the end of the day, a V-8 is still a V-8, right? Just be glad that you're not stuck with a boat anchor of an engine like the International Harvester 345 V-8, which is conveniently wrapped up in a massive package that weighs more than a Chevy big-block but makes less power than a Chevy small-block. Anyway, the Jeep AMC 304, 360, and 401 are all based on the same engine platform. You can identify which version you have by the cast 304, 360, or 401 on the block behind the driver side exhaust manifold near the motor mount. The numerals are about 1-inch tall, so they are hard to miss. As with almost any engine, there is no replacement for displacement. However, owners of running 401s or even worn cores often think they are worth a lot more than they really are. The 360s are the most common. All three engines react similarly to basic upgrades, and AMC V-8s are praised for durability and low-end grunt. For some people, this is enough to offset the dismal fuel economy and less-than-green exhaust emissions, which keeps many AMC-powered vehicles off the road in states that have smog testing.

Perhaps the best modification you can make to an AMC V-8 is fuel injection. If ever there was an engine that can make use of the precise fuel metering that EFI provides, it's the AMC eight-cylinder. Because the engines make



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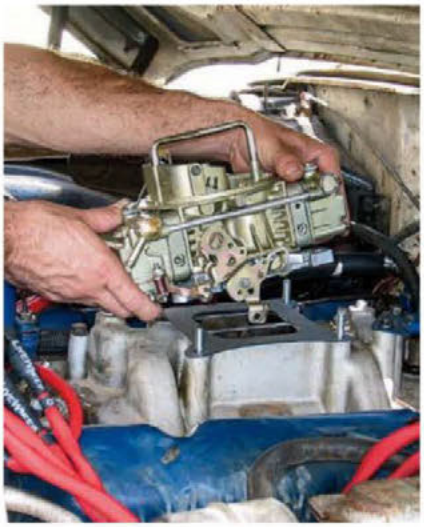
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An aftermarket four-barrel carburetor can really wake up an AMC V-8, especially with the addition of a new performance aluminum intake manifold. But, if you are looking for off-road performance at all angles, you're better off steering into a fuel injection system.



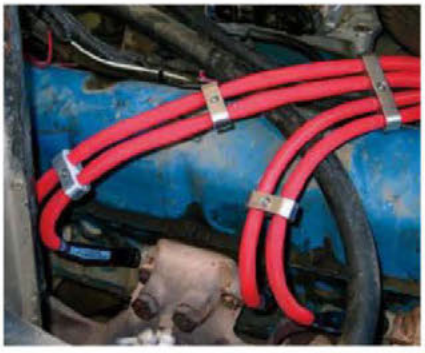
We have had pretty good luck with an old two-barrel Holley Pro-Jection kit on our AMC V-8, but the new fuel injection technology available from Edelbrock, FAST, Holley, Howell EFI, and Professional Products is far superior to our 20-year-old analog kit.



The cotton-gauze oiled filters allow more airflow and are great for street use. However, they don't filter out dirt particles as well as paper elements or filters made from synthetic media.



The Performance Distributors Davis Unified Ignition is one of the best performance mods you can make to an AMC V-8. The new GM HEI-style distributor provides a hotter and more reliable spark than stock. You can open up the plugs a bit too for a more complete burn.



Performance Distributors also offers high-quality sheathed plug wires. They come preassembled in correct lengths with boots that match the AMC plugs and DUI distributor.

such great torque down low, right off idle, it's a shame to burden them with a stumbling carb that has difficulties running at angles. A properly functioning EFI system will make your AMC V-8 more drivable, more fuel efficient, and cleaner burning in most cases. There are several universal and engine-specific EFI systems available for the AMC. One of our favorites is from Howell EFI (howellefi.com). The company even has 50-state-legal EFI kits for the AMC mill. Universal self-tuning EFI kits are available from Edelbrock (edelbrock.com), FAST (fuelairspark.com), Holley (holley.com), and Professional Products (professionalproducts.com). If you like tinkering and tuning for best performance, Edelbrock offers an AMC multi-point Pro-Flo fuel-injection kit that supports up to 450 hp. We hear you: EFI sounds like an expensive upgrade for an FSJ you may have bought for less than $2,000, but trust us, the resulting performance is worth it.

We've never been impressed with the factory ignition systems found on the AMC V-8s. They can have a wide range of issues, including burnt out Ford Duraspark modules, roll pin that holds the rotor mount disintegrating, and just plain ol' weak spark. The quick and easy solution that works every time for us is the installation of a Performance Distributors (performancedistributors.com) DUI distributor. You get to throw away your entire anemic factory ignition and replace it with a GM HEI that has been modified and tuned by Performance Distributors to work specifically on your AMC V-8. The hotter ignition gives you the opportunity to open up the plug gap a bit and install better plug wires for a cleaner-burning, smoother-running engine. Because of the larger diameter, it takes a bit of patience to get the distributor located and timed properly. It only fits with a specific clocking on some engines. Be careful when ignition shopping, as some cheap knockoff HEI conversions don't fit well, can't be adjusted enough for proper timing, or have poorly manufactured distributor drive gears that can cause internal issues.

There are any number of aftermarket high-flow air filters that you can install on the AMC V-8. For best dirt filtration you'll want to run a traditional paper element or a filter with synthetic media, like the Dryflow filters from AEM (aemintakes.com). Oil impregnated cotton gauze filters may provide better airflow, but they let a lot more dirt particles get into your engine, which increases wear.

Hedman Hedders (hedman.com) and Hooker (holley.com) offer free-flowing long-tube headers that fit many factory Jeep AMC V-8 applications with automatic and manual transmissions. Edelbrock and others offer shorty headers for extra-tight


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These Hooker long-tube headers are designed to fit several different AMC applications. The ceramic coating is far superior to chrome or paint in an off-road environment.

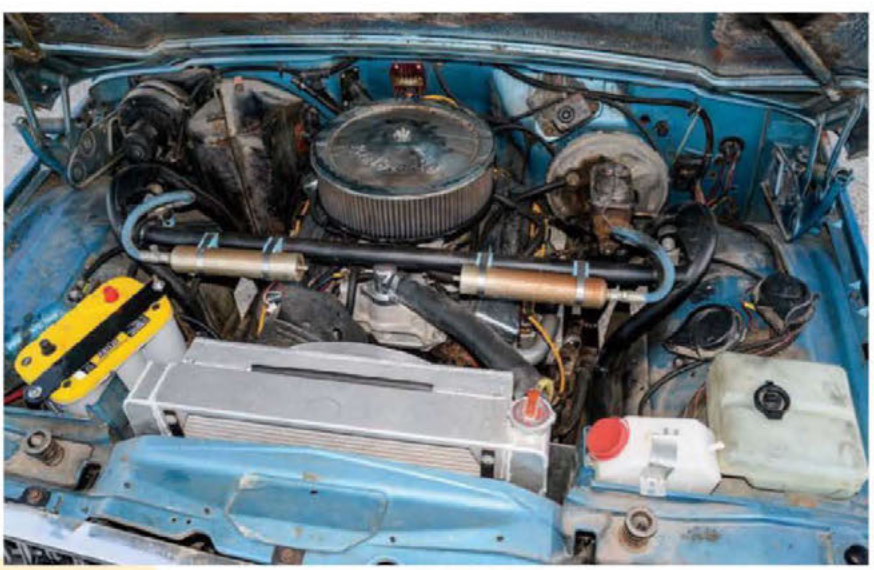


If you are into deep water crossings, consider a Flex-a-lite electric fan that can be switched on and off. There are several models that fit the CJ and FSJ AMC-V-8 radiators.

If all else fails and you get tired of owning what some consider to be an oddball engine, swapping to a common and boring Chevy V-8 is relatively easy. There are many swap components available from Advance Adapters (advanceadapters.com) and Novak Conversions (novak-adapt.com) to replace the AMC V-8 in CJ and FSJ Jeeps.

For improved cooling, try a Flex-a-lite (flex-a-lite.com) belt-driven Race Fan. These rigid steel fans move massive amounts of air. However, they make a lot of noise and rob a few horsepower. If cooling is still an issue, Flow Kooler (flowkoolerwaterpumps.com) water pumps are available for all AMC V-8 engines. They increase water flow through the engine and radiator.





and custom applications. Chrome coating may look cool for a short period of time, but exhaust heat and mud can make them rust fairly quick if you don't maintain them. Ceramic coatings seem to stand up better in an off-road environment.

The GM TH400 and Chrysler TorqueFlite 727 automatic transmissions that were used behind the AMC V-8 engines in Jeeps are extremely durable, reliable, and inexpensive to rebuild. To keep the number one killer of automatic transmissions at bay, always use the biggest transmission cooler you can fit and make sure it gets plenty of airflow, especially if you plan to 'crawl slowly over technical trails or tow a trailer.

The T-18 four-speed manual transmission is commonly found behind the AMC V-8s. It is one of our favorite transmissions. It comes in two versions, but most FSJs have the more desirable version with the 6.32:1 First gear. About the only upgrade we can recommend here is the addition of a performance aftermarket clutch from a company like Centerforce (centerforce.com). We've found that stock-replacement clutches can get hot and slip under high-load situations with big tires, so the extra gripping force of a performance clutch is needed.

Even though the AMC V-8 hasn't been offered in a new vehicle in almost 25 years, it still enjoys a lot of aftermarket support. Powermaster (powermastermotorsports.com) has high-output alternators and high-torque gear-reduction starters for the AMC mill. Several variations of V-belt accessory designs were used over the years, so it can be difficult to match up belts, missing brackets, and other components. To simplify the front of your engine, Bulltear (bulltear.com) offers a complete serpentine accessory belt kit for the AMC V-8. The company also offers many other performance parts, should you decide to dive deeper into the engine. If you have trouble keeping rocks off your oil pan, Trans-Dapt (tdperformance.com) builds a reinforced Slam Guard oil pan with a 3/16-inch skidplate for AMC V-8s. Other AMC performance parts can be found at BJ's Off-Road (bjsoffroad.com) and Performance American Style (performanceamstyle.com).

The oil pump pocket and water passages in the aluminum timing cover are susceptible to wear and corrosion. The good news is that there are new replacement timing covers available. The bad news is that some imported replacement AMC timing covers have questionable oil-pump gear alignment, so know what you are getting before ordering. If you are replacing a worn or corroded timing cover, most AMC fans agree that it's a good idea to replace the oil pump, timing gears, chain, and water pump while you are in there.

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By Kayla Neumann
jpeditor@jpmagazine.com
Photography: Kayla Neumann

Let's take a second to welcome the newest member of the family: the Jeep Renegade.

The Renegade is a futuristic looking vehicle that Jeep is using to fill the gap between today's SUVs and the off-road vehicles we love. Our typical off-road vehicles are designed for capability and performance, not comfort. The Renegade on the other hand, lets the entire family join in the fun by going for both comfort and capability. Let's face it—Jeep isn't known for building huge, roomy vehicles. They're known for building some of the most capable off-road vehicles around. In today's automotive world, though, most people want comfort and fuel economy over the ability to take their vehicle anywhere. The Renegade can take the kids to and from school and then hit the trails on the weekend with equal ease.

Although having a futuristic look to it, Jeep has kept some traditional features alive. The seven-slot grille and round headlights are two of those icons that have been around since the beginning. Some of you may not know, but the seven-slot grille we've all come to recognize is descended from the military MB's nine-slot grille. It's in places like this where Jeep designers took the time to recognize their heritage. They also tried, and in our opinion succeeded, to stick with their off-road heritage. While it is a crossover-sized sport-utility-vehicle, the Renegade still has enough off-road capability that you can take it most places the average person wants to go. Whether you are into hiking, backpacking, skiing, or geocaching, you can get there. The Renegade is designed for that segment of the market that wants to get into the outdoors but don't need the capability of a Wrangler. When you look over the specifications, it really is an exceptional mix between a small, fuel-efficient crossover and an off-road–oriented Wrangler or older Cherokee.

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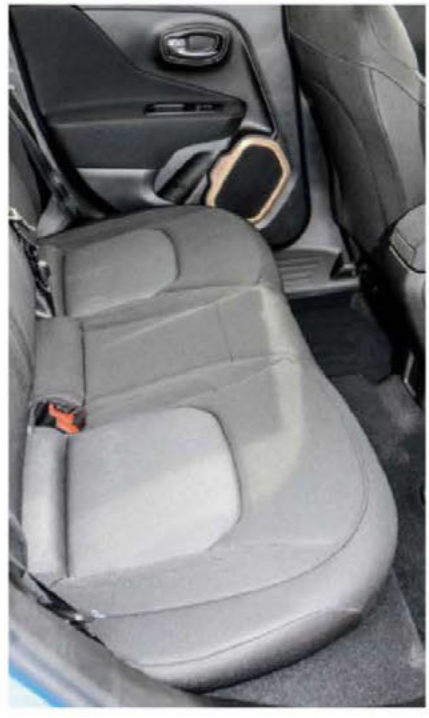
A NEW BEGINNING

Very clean lines and a surprisingly roomy interior help to make the Renegade a lot more comfortable than we were expecting it to be.

With a height adjustable rear cargo area, it's easy to safely store the removable panels from the My Sky sunroof while not losing any valuable space need for daily hauling.









Being younger guys themselves, the Renegade's designers were trying to include a sporty edge. After a day at the local paintball park, the tachometer's redline zone was inspired from the splatter on the design team's face masks.



Four separate settings allow the Selec-Terrain traction system to optimize your drivetrain to a variety of conditions. The Trailhawk-trim Renegade also has a rock mode.

As one of the smaller sport utility vehicles available, the Renegade has a surprising amount of room. The folding rear seats allow for a variety of cargo, from passengers and pets to camping gear or home improvement supplies.

'15 Jeep Renegade Sport

When they let us drive the new Renegade, I went in with a few preconceived notions. I must say that I was pretty pleasantly surprised. We drove the Sport model out to the Hollister Hills OHV area in northern California; about a 200-mile round trip. The Sport was definitely my favorite of the two models I was able to drive. Not only was it comfortable inside, it handled well and had much more power then I was expecting from such a small engine. Even though it is classed as a small SUV, the handling was on par with most small cars. With its low center of gravity, it handled curves with ease, and while on the highway, the Sport was easily maneuverable through your standard freeway traffic. The only thing I was not keen on was the steering. It was accurate but flighty. It just seemed loose to me. Every control the driver needs access to is within arm's reach. From shifting gears to changing the radio station, everything was in an intelligent location. However, I was not a fan of where they put reverse on the shift pattern of the six-speed manual transmission. In the Renegade, reverse is at the upper-left position, while in most North American vehicles, it is at the lower-right position. In this model with its turbocharged 1.4L engine the fuel economy might not be quite that of a Toyota Prius, but you'll definitely be able to outrun one. All in all, I think this would make for a great all-around family vehicle.

HARD FACTS

Vehicle: '15 Renegade Sport
Engine: 1.4L MultiAir Turbo I-4
Transmission: Six-speed manual
Transfer Case: Selec-Terrain Power Transfer Unit
Suspension: Macpherson strut (front)/ Chapman strut (rear)
Axles: Front-wheel drive/Disconnecting rear axle
Wheels: 16-inch aluminum
Tires: 215/65R16 LBL All-season



Taking inspiration from the old jerry cans, Jeeps designers put that same X-shape into several different spots around the vehicle. The taillights were just the most noticeable.

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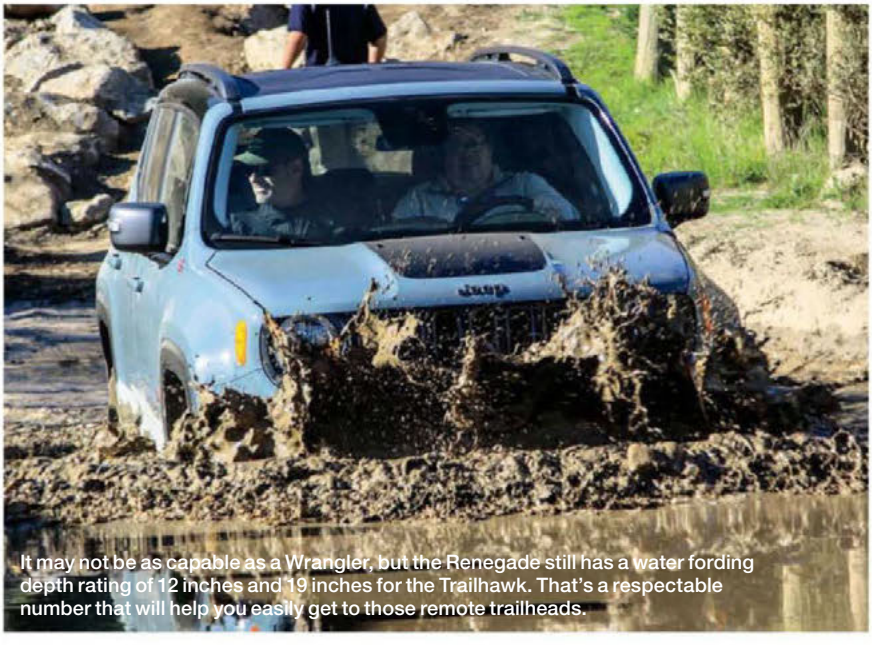
A NEW BEGINNING



Including 17-inch wheels, a 20:1 crawl ratio, and a slightly taller stance, the Trailhawk is the off-road version of the Renegade. While not quite intended for the Rubicon Trail, the Trailhawk is plenty capable enough for the average families to get out and play.



While this isn't a hardcore off-road machine, Jeep still took the time to make sure that their off-road heritage gets some love. Trailhawk features like skidplates and tow hooks, combined with 8.7-inches of ground clearance, make sure a Renegade can go quite a ways off the beaten path.



It may not be as capable as a Wrangler, but the Renegade still has a water fording depth rating of 12 inches and 19 inches for the Trailhawk. That's a respectable number that will help you easily get to those remote trailheads.



Off-road, the Trailhawk was a constant surprise. It really performed better than we thought it would. When we hung this tire in the air, the Renegade's Active Drive Control systems worked perfectly together to let us crawl right through and safely continue our descent down this hill.

'15 Jeep Renegade Trailhawk

It's a pretty exciting feeling being amongst the group of people chosen to take this brand-new Jeep on its first trail. The Trailhawk is the off-road edition of the new Jeep Renegade. Getting to play in Hollister Hills OHV area in northern California, driving this Jeep on trails was incredible. The Renegade may not look as capable as most of the Jeeps we're used to driving, but don't let looks deceive you. I was skeptical myself in the beginning. However, after being able to drive the Trailhawk through obstacles such as water crossings, hillclimbs, and rock gardens, I was pleased with the capability in this little Jeep. Part of the Trailhawk's trail-rated status comes from the factory-included undercarriage protection. With it being a little lower than a stock Wrangler, I could hear those skid plates getting put to good use when going over a few of the bigger rocks or logs. It may not be my Wrangler, but it seemed to have handled the rock garden and sandy downhill descents with just as much ease. With its various Active Drive Control settings, all you do is a push a button, let off the brakes, and let it do its thing—the computer takes care of the rest. All of my preconceived notions were blown away by just how capable the Renegade turned out to be.

HARD FACTS

Vehicle: '15 Renegade Trailhawk
Engine: 2.4L Tigershark I-4
Transmission: Nine-speed automatic
Transfer Case: Selec-Terrain Power Transfer Unit
Suspension: Macpherson strut (front)/ Chapman strut (rear)
Axles: Front-wheel drive/Disconnecting rear axle
Wheels: 17-inch off-road black aluminum
Tires: 217/65R17 All-terrain



Having two different options available for the engine and transmission is nice.

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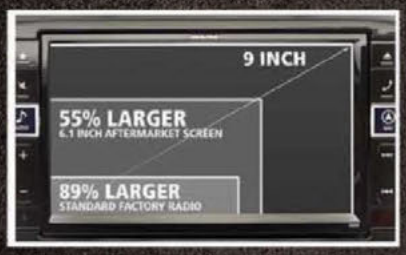


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There has been a massive amount of events in the California desert over the years. High-speed races, rockcrawling championships, combinations of both, and even some hot rod drag racing have all kicked up the Mojave Desert sand. However, not many of them really capture the true Jeeper spirit of family fun like the Tierra Del Sol Desert Safari. Originally started in the early '60s, the Desert Safari (typically known as "TDS") was hatched by a couple of guys who used their flat fender rigs as search-and-rescue vehicles on old Native American trails outside of Salton Sea, California. Eventually there was more off-roading for fun than search-and-rescue, and a club began to form.

Enjoying the California sun

By Jake Headlee
jpeditor@jpmagazine.com
Photography: Jake Headlee

The concrete notches made for a great place to kick back and watch others get their twist on. The Outlaw LED JK managed through without much trouble.

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A crew cab Jeep Forward Control is rare enough to see in civilization, let alone in the middle of the desert. The decked-out beast captured the attention of nearly everyone at the event.



Discount Tire set up an oasis in the middle of a trail run for everyone to cool down and socialize. Many people arrived to the clearing from other trails just to hang out.





The Deaver Spring YJ was caught looking majestic in its natural habitat. YJs are becoming more popular, but this one will out-wheel most of the rigs in the area.



Rock Krawler Suspension had a few JKs out in force and in their booth showing what their products can do. Almost all local manufactures try to make this event.

The Tierra Del Sol Four Wheel Drive Club was incorporated as a non-profit organization in 1962 and has been helping to keep our deserts open to the public ever since. The club has grown to about 50 families and countless supporters. The TDS Desert Safari is their annual "come one, come all" celebration. Each year, TDS invites anyone from around the world to join them in the 85,000-acre Ocotillo Wells SVRA, northeast of San Diego, California, on the first weekend of March to eat, Jeep, and be merry.

The 53rd Annual event is one of the largest four-wheel-drive events on the West Coast and had more than 1,500 individually registered vehicles for 2015, most of them being Jeeps. Add in extra passengers and non-registered vehicles and there was an estimated 8,000 people in the area for the event alone. Being a wide-open and free-for-all desert, there were also more campers and dirt riders that just happened to be crawling around the recreational area at the same time. Official registration allows the vehicle to have access to the organized trail runs scattered throughout the weekend and in different parts of the area. Ocotillo Wells has lots to offer: loose sand, big boulders, deep notches, dried up washes, and steep hillclimbs. Sometimes there's even a mud bed hidden somewhere, depending on how much rain came through during the winter. TDS also offers up a place for attendees to get up close and personal with parts vendors and local service facilities that participate in the huge vendor

Content Director Rick Pewe was caught with low fuel while wheeling. Luckily Jeff Crosby of Deaver Spring and his group were close by to supervise and snap a quick pic.



Many of the obstacles in the playground are man-made, such as these strategically positioned concrete pipes. It's sort of like Urban Wheeling.



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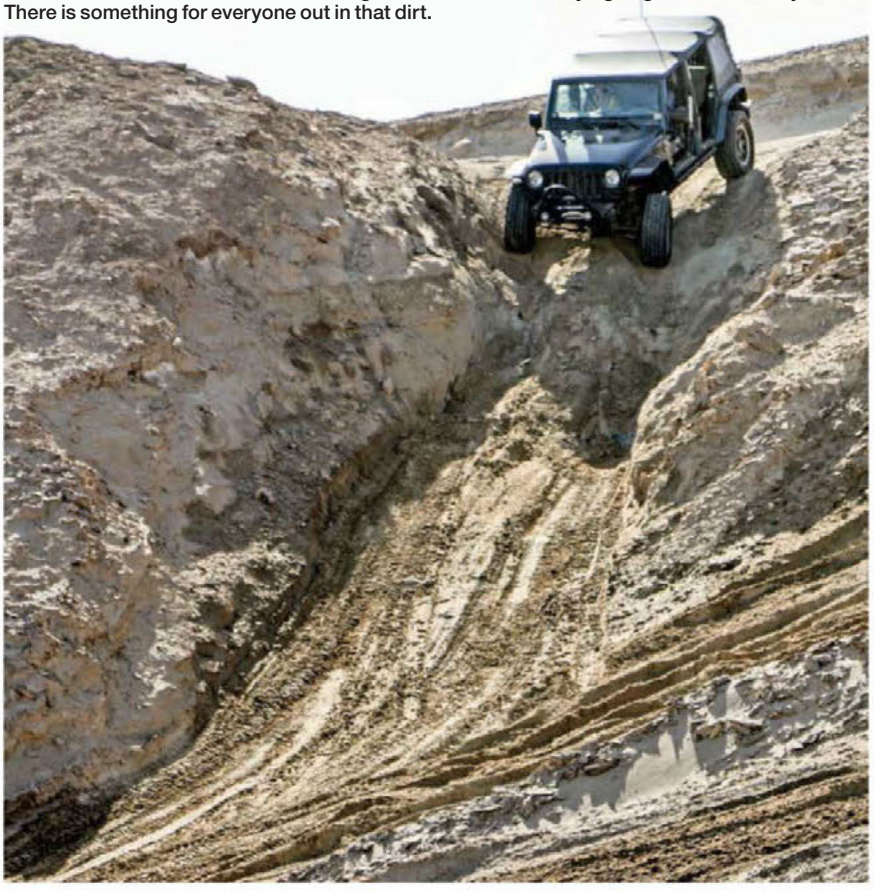




A Comanche rolled through the custom-made playground and turned more than a few heads in the process. The respectable wheelbase and trusty suspension allowed the MJ to have plenty of fun.

The main stage is where all the raffle prizes are shown off and then given away on Saturday night. Thousands of dollars of prizes are up for grabs.

The Ocotillo Wells SVRA has a wide range of obstacles with varying degrees of difficulty. There is something for everyone out in that dirt.





We spotted this bone-stock flat fender sneaking along through some notches and had to chase it down. Not much articulation, but with a rig that light, who needs flex?



John Currie's rock buggy utilizes a Campbell chassis, Rock Jock 60s and an LS motor to dominate the dirt. A vehicle like this has no trouble in the desert of Ocotillo Wells.

area. Companies such as Poison Spyder, Fox, 4 Wheel Parts, Currie Enterprises, and even Polaris set up booths to show off their goods and convince you that you need to buy what they're selling. The variety of food vendors doesn't usually have a problem convincing anyone to stand in line, though.

Vehicle registration fees also goes towards the gargantuan prize raffle on Saturday night. Each paid registration gets a single ticket towards the $100,000-plus cache of prizes. Additional tickets can be purchased on site and dropped into bucket raffles separate from the main raffle. Bucket raffles were for winches, a set of tires or grouped prizes. Tires and winches are always a hot commodity, but the big-ticket item this year was a Polaris Ace UTV/Quad half-breed. It may not replace your Jeep, but it would be fun to try to get it stuck. Thousands of people lined up their camp chairs in front of the main stage in the vendor display area on Saturday evening in hopes of winning something. It's always a good time, even if you don't win anything. Saturday night was capped off with a fireworks display that rivaled Disneyland's nightly explosive outbursts.

The Tierra Del Sol Four Wheel Drive Club is so much more than just a group of folks who get together and wheel. The group puts a lot of effort and resources into keeping public lands open and clean. In addition to funding endeavors against land closures, the 2015 Desert Safari helped to bolster donations to 4 Wheel 2 Heal (4w2h.org). This charity is an organization dedicated to helping wounded or disabled Veterans from our U.S. military forces get to off-roading events as a way to help them heal and feel at home once again.

The 2016 Tierra Del Sol Desert Safari is fast approaching. You can count that we will be there. For more information on the Tierra Del Sol Four Wheel Drive Club and the annual Desert Safari, head to tds4x4.com.

Legal Wheeling in a Park

Ocotillo Wells is a special place. Not only are there 200-plus miles of legitimately recognized dirt roads and trails, there is an entire man-made off-road playground that is open year round for anyone to test their luck, guts, and abilities. Filled will hillclimbs, concrete notches, rock fields, an RTI ramp, and a massive double-sided waterfall, there is plenty to keep your attention tuned in, whether you are in your Jeep or on the sidelines watching the crazies get at it. You could easily burn your entire weekend in the playground. Ocotillo Wells offers up plenty of wheeling adventures waiting to happen. The Pumpkin Patch is a great place to take a small journey to see some funky rocks, Devil's Slide is fun if you want to kick up some sand, and Blow Sand Hill is where to go to see how good your sand drag skills are.

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Resplendent in President Red (Code 226), Kevin Banonis' '65 "Plain Red Wrapper" CJ-5 has only the things you desperately need. That said, there are probably many things you probably would desperately wish for if you drove it daily. The vintage Goodyear Suburbanite tires add to the retro look.

The classic round-fender and short-nose Jeep lines. At this point, CJs still had the legacy M-38A1 hood cutout for a snorkel. This would disappear after '67 (for the most part, as there are exceptions). The vestigial battery box cover, another leftover from the M-38A1, had finally disappeared just the year before (although it too is sometimes seen later on allegedly original Jeeps).

JEEP ENCYCLOPEDIA

'65 Jeep CJ-5 Universal

By Jim Allen
jpeditor@jpmagazine.com
Photography: Jim Allen

Most of the time the vintage Jeeps we look at are decked out with either accessories or options. What about the bare bones Jeep? Well, here's one for you: It's a '65 CJ-5 with next to nothing on the options sheet, straight from the days when even the passenger seats were optional!

The '65 model year was the last before the exciting change for '66 that brought the 225ci Dauntless V-6 to the lineup. The standard gas engine for '65 was the 134ci, 72hp F-Head Hurricane, but a 192ci, 62hp, 143 lb-ft four-cylinder Perkins diesel was on the options list. The 134 was pretty much the same Barney Roos-designed engine that had debuted for the '50 models. It wasn't really a new design even at that point, since Roos had done a "head-ectomy" and worked over the old Go-Devil flathead by moving the intake valves into a new head.

Behind the engine was the venerable T-90 floor shift three-speed, which was rated for a 165 lb-ft of input torque. Optional was the T-98 four-speed, which was rated for 240 lb-ft input torque but had a really low 6.4:1 first gear, and second gear was almost as low as first on the T-90. This option was probably worth the $160 it cost just to be able eke more out of the low-power four. The Dana 18 was still soldiering on in the CJs at this point, even though the Dana 20 was already being used in other applications. For axles, the CJ used a Spicer 27-AF up front and a tapered axle Dana 44 in back. Both carried 4.27:1 axle ratios, but the 5.38:1 was optional, and the '65 Jeep Data Book lists Powr-Lok limited slips as available for both axles.

The GVW on the '65 CJ-5 was 3,750 pounds, calculated on a base curb weight of 2,274 pounds. Optional heavy-duty rear springs upped the spring rate from 200 lbs/in to 410 lbs/in. However, an increase in the 1,476-pound payload (including passengers) wasn't listed. A full convertible top was optional and was dealer installed. Full and half metal cabs were also optional.

This Jeep came from Wisconsin, and its history is not clear. It had two previous owners before Kevin Banonis, the owner at the time it was shot, but it was given a cosmetic restoration in the early 2000s. The fact that it survived in the salt-cursed winter wonderland of Wisconsin is a testament to good care and the hardtop it had worn since new.



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The F-134 Jeep F-head four was pretty long in the tooth in '65, especially considering it was largely based on the '39 Go-Devil L-head design, a remake of an engine that dated back to the mid '20s! For '64, the canister style oil filter had given way to a spin-on filter. It was still only a partial flow system, however. The Hurricane could be ordered in three variations: low compression (6.9:1) that made 68 hp, the standard engine with a 7.4:1 ratio that made 72 hp, and a high compression (7.8:1) that made 75 hp. The low-comp engine was primarily seen in military rigs but could be ordered. The high compression engine was intended for high altitude operations and made a few extra ponies at sea level. The high-compression head is often seen painted yellow. The high-compression option is listed as a no cost option, but it isn't clear if the low comp engine was also.



The Spicer 44 rear axle was still using tapered axles at this point. A Spicer Powr-Lok was on the options list and remains one of the best, strongest, and most-tweakable limited slips ever built. These are the standard nine-leaf 200 lbs/in rear springs, though 12-leaf 410 lbs/in springs were optional if you needed the extra capacity or to turn your brain into a gelatinous mass on rough roads. Most likely this rig has the standard 4.27:1 ratio and it's doubtful the cheap SOB that bought it originally sprung for the Powr-Lok.



The extra holes in the dash on the left came from some unknown previous installation but there isn't much to be seen beyond a few switches and the combo gauge pod. Gaugeaholics driving this rig will be Jonesing big time! One of the previous owners added a 12V fan that looks particularly useless. Jeeps in this era still had vacuum wipers, hence the hose on the left. Every Jeep should know the joy of vacuum wipers. After the first time, you will know why they have a hand lever.



Up front, the axle was a closed-knuckle Spicer 27-AF. There wasn't much difference between a Spicer 25 and 27, but the 27-A had a slightly larger outer-pinion bearing and slightly enlarged axleshafts (though the spline count and diameter didn't change). A front Powr-Lok limited slip was optional, but not for much longer. The last time it shows up on the options list was for '66s.



These 8.45-15 Goodyear Suburbanite tires are the original style tires and were optional above the standard 6.00-16 NDTs. They were the "big" option for that era. The Suburbanites were a ubiquitous tire in the '60s, being reasonably effective in the dirt; wearing well but delivering decent street performance. They debuted in this form for '58 models and can be seen as an option for Jeeps through '72, after which a new Polyglas version replaced it. These tires may be the originals to the Jeep.



Accessories? Umm, well, besides the heater there aren't many to speak about. You have the front passenger seat and rear seat, grab rail, and glove box door. Though it isn't fit in this picture, the Jeep was purchased with the factory-approved Meyer hardtop that had rollup windows and more! After these images were taken, Banonis installed a canvas half cab for a period look. The polyester seat covers are not original but handy for avoiding hemorrhoidal cauterization from the black vinyl on hot days.

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3.25"	Coils w/Perf. 2.2 shocks	$399.95
3.5"	Complete Kit w/N2.0	$499.95
3.75"	2.5" susp. / 1.25" body	~~$449.95~~ - $419.95
4"	Complete Kit w/shocks	~~$575.95~~ - $499.95
4"	X-series Kit	~~$1249.95~~ - $1199.95
6"	X-series Kit	$1339.95
4"/6"	07-14 Long Arm Upgrade*	$1199.95
4"	07-14 Long Arm Susp.*	$1999.95
6"	07-14 Long Arm Susp.*	$2099.95

ACCESSORIES

Performance 2.2 Steering Stabilizer	$59.95
1.25" Body Lift Kit	starting at: $99.95
Front Hybrid Stubby Bumper	$189.95
Front Winch Bumper	$379.95
Bestop Oversize Tire Carrier	$299.95
Adjustable Front Track Bar (2.5" - 4")	$109.95
Performance 2.2 Dual Steering Stabilizer	$129.95
Front Bumper Caps (Stubby look)	$59.95



SUSPENSION — 1997-2006 TJ/LJ Wrangler

0.75"	Leveling Spacers	$39.95
1.5"	Coil Spacer Kit	$199.95
2"	Coil Spacer Kit	~~$129.95~~ - $109.95
2.5"	X-series Kit w/X-Flex arms	$949.95
3.25"	Coils w/N2.0 shocks	~~$399.95~~ - $369.95
3.75"	2" susp. / 1.25" body	~~$429.95~~ - $389.95
4"	Complete Kit w/N2.0	~~$549.95~~ - $499.95
4"	X-series Kit w/X-Flex arms	$999.95
6"	X-series Kit w/X-Flex arms	$1049.95
2.5"	Long Arm Suspension	$1499.95
4"	Long Arm Suspension	$1599.95
6"	Long Arm Suspension	$1649.95

ACCESSORIES

Dual Steering Stabilizer (2.5"-6.5")	$99.95
1" Body Lift Kit (replaces body mounts)	$149.95
1.25" Body Lift Kit	$99.95
2" Body Lift Kit	$109.95
3" Body Lift Kit	$129.95
Front Stubby Bumper	$149.95
Front Stubby Winch Bumper	$279.95
Hydraulic Hood Assist	LOW PRICE! - $59.95
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1.5" Wheel Spacers (pair)	$59.95



SUSPENSION — 1984-2001 XJ Cherokee

1.5"	Coil Spacer Kit	$249.95
3"	Coils w/ N2.0 Shocks	$255.95
3"	Series II Kit w/N2.0 Shocks	$345.95
4.5"	Complete Kit w/N2.0	~~$499.95~~ - $459.95
4.5"	X-series Kit w/X-Flex arms-N2.0*	$829.95
6.5"	X-series Kit w/X-Flex arms-N2.0*	$899.95
4.5"	Long Arm Suspension	$1299.95
4.5"	Long Arm Suspension*	$1399.95
6.5"	Long Arm Suspension*	$1449.95

*Includes new rear leaf springs

ACCESSORIES

Front Winch Bumper	$379.95
Dual Steering Stabilizer	$99.95
Shackle Relocation Kit	$119.95
Gear Packages	starting at: $469.95
Sway-bar Quick Disconnects (4"-6")	$69.95
Adjustable Front Track Bar (4"-6")	$129.95
HD Tie Rod Upgrade	$79.95
1.5" Wheel Spacers (pair)	$59.95
Performance 2.2 Steering Stabilizer	$49.95
Control Arm Drop Kit	$189.95
Differential Guards (Dana 30/35/44)	$59.95
X-Flex Adjustable Control Arms (pair)	$189.95

*2012-2015 models add $190 to long arm kit cost



SUSPENSION — 1987-1995 YJ Wrangler

2.5"	Complete Kit w/N2.0 shocks	$449.95
4"	Complete Kit w/N2.0	~~$499.95~~ - $449.95
4.5"	Complete Kit w/Military Wraps	$549.95
4.5"	X-series Kit w/Military Wraps	$649.95
5.5"	Spring Over Axle Mounting	$74.95
6"	Complete Kit w/N2.0 shocks	$999.95

ACCESSORIES

Dual Steering Stabilizer (4"-6")	NEW! - $99.95
1" Body Lift Kit (replaces body mounts)	$149.95
1.25" Body Lift Kit	$79.95
2" Body Lift Kit	$84.95
3" Body Lift Kit	$94.95
Boomerang Lift Shackles (1", 1.25")	$54.95



SUSPENSION — 1999-2004 WJ Grand Cherokee

2"	Coil Spacer Kit w/N2.0 Shocks	$249.95
4"	Complete Kit w/Perf 2.2 Shocks	$649.95
4"	X-series w/X-Flex Arms	~~$799.95~~ - $749.95
4"	Long Arm Suspension	NEW! - $1499.95
4"	Long Arm Upgrade Kit	NEW! - $1099.95

ACCESSORIES

Winch Mounting Plate	NEW! - $229.95
Performance 2.2 Dual Steering Stabilizer	$129.95
Performance 2.2 Steering Stabilizer	$49.95
X-Flex Adjustable Control Arms (pair)	$179.95
Sway-bar Quick Disconnects (3"-6")	$59.95
Adjustable Front Trac Bar (3"-6")	$129.95



SUSPENSION — 1993-1998 ZJ Grand Cherokee

1.5"	Coil Spacer Kit w/Shocks	$205.95
3.5"	Complete Kit w/N2.0 Shocks	$399.95
4"	Series II Kit w/arms & N2.0 Shocks	$599.95
4"	X-series Kit w/X-Flex Arms - N2.0	$779.95
4"	Long Arm Suspension	$1499.95
4"	Long Arm Upgrade Kit	$999.95

ACCESSORIES

Winch Mounting Plate	$229.95
1.5" Wheel Spacers	$59.95
Performance 2.2 Steering Stabilizer	$49.95
Sway-bar Quick Disconnects (3.5"-6")	$69.95
Differential Guards (Dana 30/35/44)	$59.95
X-Flex Adjustable Control Arms (pair)	$189.95

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JK Hybrid Stubby Winch	$189.95
JK Hybrid Stubby Winch w/Fog mounts	$229.95
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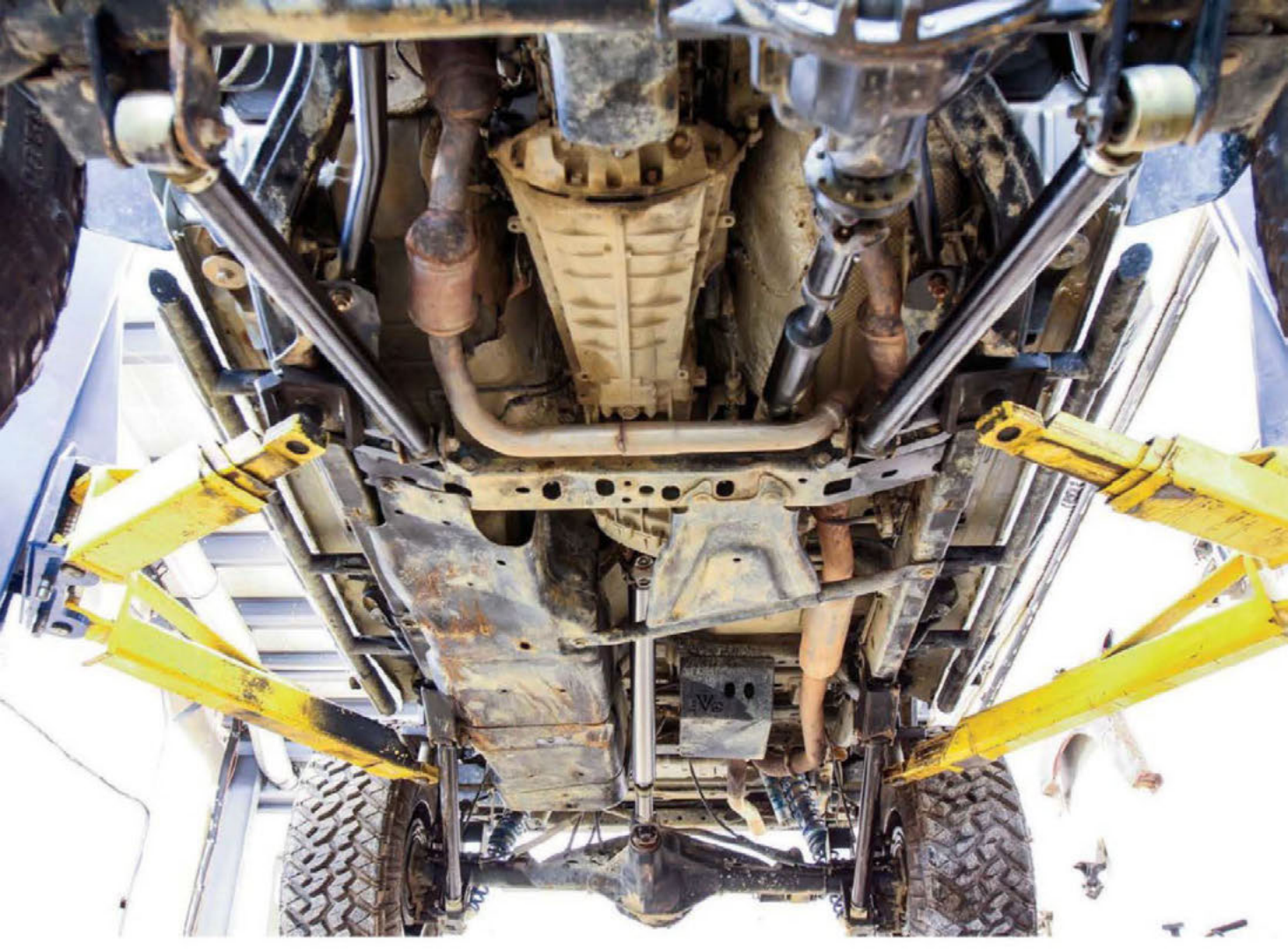


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RATIO RIGHT

JK differential gearing for performance and economy

By Ali Mansour
jpeditor@jpmagazine.com
Photography: Ali Mansour

Power-to-weight ratios; it's something that automakers and auto enthusiasts spend countless hours mulling over. From its inception, the first Jeep was actually very light. In fact, it wasn't until 1997 that the brand pushed over the 3,000-pound weight minimum with a soft top Jeep. These days, Wranglers are heavier than ever before. You can partly blame modern safety regulations, creature comforts, and an ever-increasing vehicle size for those unwanted pounds.

When Jeep launched the four-door Wrangler Unlimited in 2007, it was gifted with a 3.8L V-6 that was rated with an underwhelming 202 hp. In stock form, the JK was never much of a powerhouse, but it worked OK for the vehicle's weight and proportions in stock form. Adding 37-inch-tall tires, aftermarket bumpers, suspension, and off-road equipment (such as we've done to our '07 Unlimited Rubicon) and you've only made the situation worse. Originally, our '07 JK came with 4.10:1 differential gearing. Considering that in its current modified state our JK has a power-to-weight ratio of 0.037 per 1 pound, 4.10s were far from optimal.

So, what's the fix? Re-gear the JK's differentials with a higher numerical gearset. Increasing your gear ratio to a higher numerical ratio is done to place your engine back within its original rpm power curve. The higher gear set will also act as a torque multiplier allowing your rig to more easily spin those larger-than-stock tires. The decision to re-gear is easy, but picking the right gear ratio can be more complicated.

Our '07 JK is fit with a six-speed manual transmission. The NSG-370 has a First gear ratio of 4.46 and a Sixth gear ratio of .084. While this spread offers a great control on the trail, it actually creates slightly higher highway rpms. If you're going off of most of the gear ratio suggestion charts, you'll likely find that a 4.88:1 is suggested for a 37-inch-tall tire.

Going back to the idea that our 202 hp isn't much for moving our off-road breadbox, we stepped up to a slightly higher 5.13:1 differential gear. It's also important to keep in mind that this minivan-sourced engine only makes its max 202 ponies at 5,200 rpm and the pinnacle of torque (all 237 lb-ft) doesn't make a full appearance until 4,000 rpm. What's the takeaway here? Your engine needs to be in the higher rpm range to make power. While low rpms might make for better fuel economy, constantly shifting down to a lower transmission gear because the Jeep isn't powerful enough to maintain speed in a higher gear will negate those savings.

While installing a few of our other axle upgrades, we took the time to add in the 5.13 gearset from Alloy USA in our Rubicon's Next Generation Dana 44 axles. Since our Jeep was also being up-fitted with a new long-travel suspension, we swapped out the weaker factory drivelines for a more durable set from Rugged Ridge. Compiled here is how it all came together.



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We picked up our 5.13:1 differential gearset from Alloy USA. Alloy offers a complete front and rear ring-and-pinion kit that includes new bearings and shims, so it was a one-stop shop for our Next Generation Dana 44 Rubicon axles.



Installing a gearset in your Wrangler will take a few specialty tools, along with some knowhow. We had our local 4x4 shop give us a hand with the gear setup as just being off by a few thousandths of an inch can be the difference between a solid and quiet differential and a roaring time bomb.



The Alloy USA gears are made from 8620 high-quality forgings and are cut using Gleason gear cutting technology, which is a line of precision gear manufacturing equipment that is used globally. Yes, this likely means our Alloy USA gears are actually made in China. Sadly, overseas is where most of the gearsets are made these days.



Getting the right gear pattern is one of the most critical steps in having a quiet and long-lasting gear setup. You'll check the pattern by paint marking the drive and coast side of the ring gear. While both sides are important, for both the front and rear JK differentials, the drive-side of the gear is where the pinion will power when moving forward. This is a plus as the drive-side of the ring gear is actually the stronger of the two. If our JK was running a high-pinion rear axle for example, it would actually power on the weaker coast side of the ring gear when moving forward.



Since our Unlimited was a Rubicon edition, we were able to re-use the stock Tru-Lok selectable lockers. Up front, you will need to remove the sensor arm to install the new pinion as it blocks access to the pinion gear. In the rear (shown) you can leave it in place.



One of the reasons we and many others purchased a Rubicon model is for the selectable differential lockers. The Tru-Lok electronic differential locker's four-pinion design is actually engineered to withstand shock loads up to 12,000 lb-ft. While acting as a completely open differential when not engaged, when the electromagnetically actuated diff gets power to the two-wire solenoid, it becomes an ultra-strong spool-type locker. These are not bomb-proof but more durable than people often give them credit for.





One area we were eager to upgrade was the JK's factory drivelines. The thin-wall tubing and large diameter make them magnets for damage on the long-wheelbase JK. An even more common failure point isn't the tube itself but rather the sealed end. Typically, the pivot's seal will become torn off-road, which will allow dirt and debris in. This will rapidly destroy the CV-style internals causing the 'shaft to fail.

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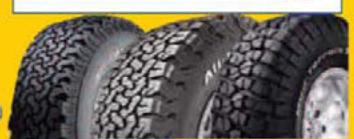
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Finding a direct replacement for your JK's rear driveline is pretty easy. We picked up this unit from Rugged Ridge. The company keeps these 1310-double-cardan-equipped 'shafts in stock, and each driveline is designed to work with up to 6 inches of lift.



Due to the JK's lift height, it's necessary to have some sort of constant velocity end on the driveshaft. Rugged Ridge uses a 1310 series, which has a max-operating degree of 28 degrees. The driveline is easily serviceable thanks to needle grease fittings.



To accept the new 1310 CV, Rugged Ridge provides a new yoke for the transfer case and differential ends. While you can use an impact gun at the transfer case side, you don't want to do that at the differential. This is due to the pinion using a crush-sleeve, which sets the pinion depth. Thankfully, we opted to do our driveline upgrade at the same time as our gear install, so we didn't have to worry about any potential pinion problems.



The long-arm suspension we installed required a front driveline upgrade, which we had already replaced with a 1310-series Rugged Ridge front 'shaft. Unlike the rear 'shaft, the Rugged Ridge driveline uses a flange mount at the differential end so you don't have to remove the yoke on the high-pinion Dana 44 frontend. Note: Both drivelines came unpainted, so we hit each with the rattle can to keep surface rust from taking over the finish.



Since we were servicing most of drivetrain from underneath, we took the opportunity to change out the oil in the transmission and transfer case with some synthetic fluid from Royal Purple. We've used the Royal Purple Synchromax before with great luck in our NSG-370 six-speed manual transmission, and Max ATF is what we served in our transfer case. We used an inexpensive conventional diff oil to break in our gearset, since we were just going to dump it 500 miles later. Post break-in, we swapped in the JK's recommend synthetic oil weight of 75w-80 from Royal Purple.

Sources

Alloy USA, alloyusa.com
Royal Purple, 888/382-6300, royalpurpleconsumer.com
Rugged Ridge, ruggedridge.com

Driving Thoughts

Going from a 4.10:1 gear ratio to 5.13:1 is an extremely noticeable jump. Our crawl ratio got a bump from 73.14 to 91.52. Again, our JK is no powerhouse, but the higher numerical gearset makes a big difference in keeping the Jeep in the power range. The overall ratio in terms of rpm level compared to a stock Rubicon is actually very close. Off-road, we found that First gear is absolutely perfect for low-speed technical crawling, but we used Second gear more often as the 2.61 ratio allows for a little more wheel speed and momentum. Another thing we felt we should note is why we went with a 1310 series driveline as opposed to the stronger and slightly more popular 1350. While we could have gone with a stronger 1350 U-joint driveshaft, we felt the potential for breaking the ring-and-pinion would increase. Ultimately, we don't think it's something we will break often, but when our inner hillbilly takes control, it's definitely possible. Running 37s on a modified Unlimited JK such as ours puts the factory Dana 44's gearset at its limits. Shifting the weak link to the 1310 CV as opposed to the ring-and-pinion was a safer option overall.





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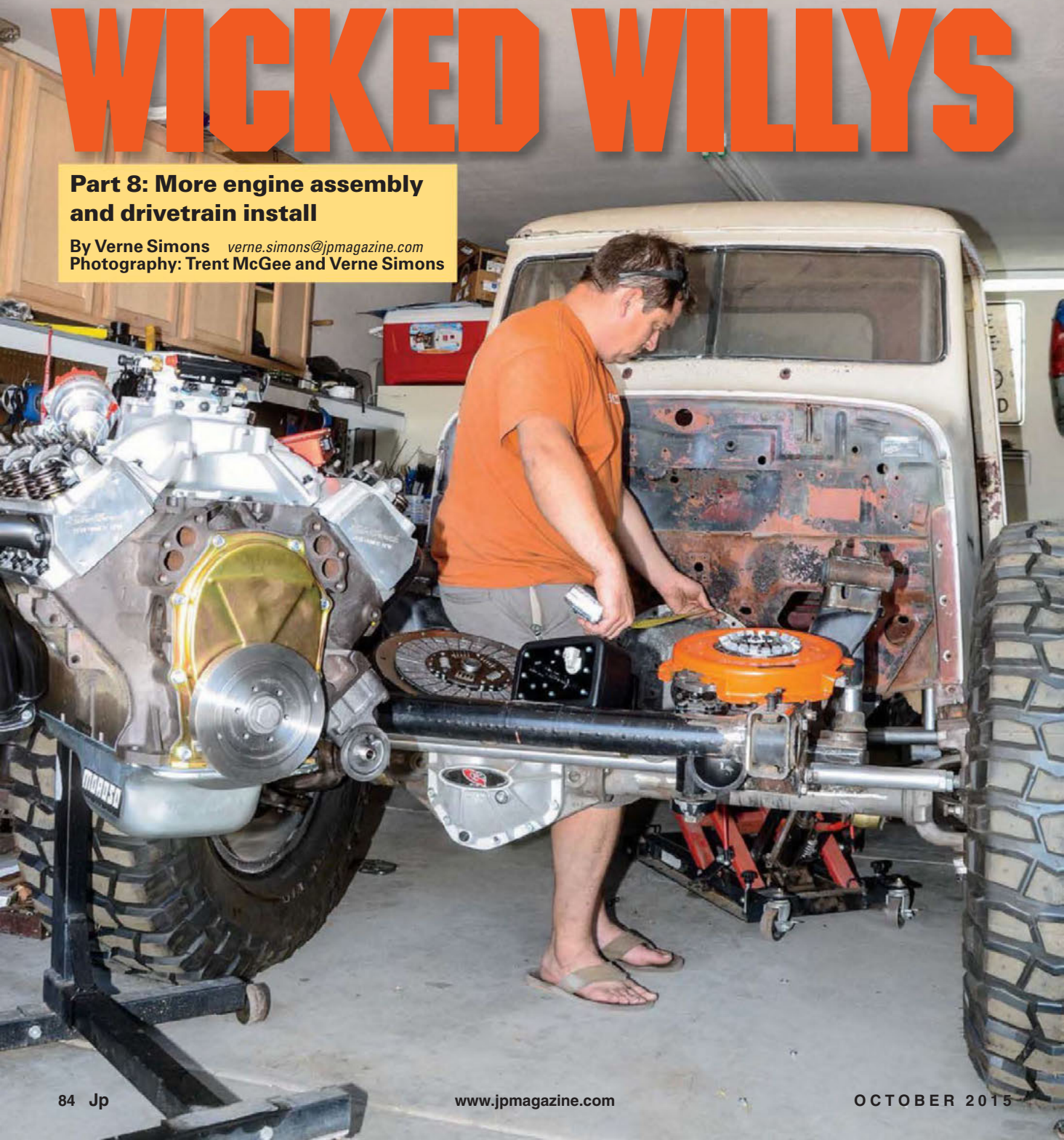
Part 8: More engine assembly and drivetrain install

By Verne Simons *verne.simons@jpmagazine.com*
Photography: Trent McGee and Verne Simons

Building a one-of-a-kind Jeep from the ground up is no simple task. Toss in some family changes, the loss of a friend and valued colleague (we miss you Pete), and a delayed project can drag on even longer. Still, the desire to finish this big, bad beast of a Jeep is even stronger as the vehicle begins to take shape. In the last installment (Sept. '15), we pressed the reset button and moved the big Willys from one side of the shop to the other. This means we can easily pull off the cab and get to work stabbing the engine and drivetrain into their new home.

Sounds good huh? The idea is to install the Centerforce Clutch, flywheel, and factory bellhousing on the back of the 505ci Dodge RB. Add in a set of Headman Shorty headers from Summit Racing and we get a pretty good idea of how much space the big mill is going to need under that vintage trimmed sheetmetal. With a clutch in place we can also bolt on the Dodge NP435 and Off Road Designs NP203/205 Doubler. When all our parts are here, we can assemble the drivetrain and begin to finalize its placement.

Since Part 7, we are getting the cart a little before the horse. That large stroked Dodge RB still needs a few parts like valvetrain for the lumpety solid lifter cam from Crane Cams, an Edelbrock intake manifold, timing chain cover, oil pan, and so on. With more parts from Summit Racing we have to get the engine a bit more sealed up before finalizing its home. Our plan is to then trim the Willys cab floor to clear the back of the engine and drivetrain, build a doghouse, and get to work on finishing the rest of the truck. For now, let's get up to speed and we'll show you what we've gotten done and how we plan to take the next step in the build.



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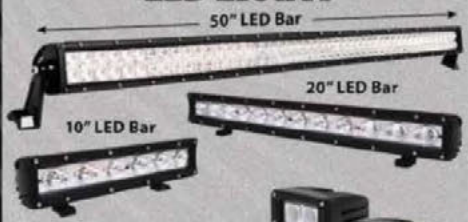
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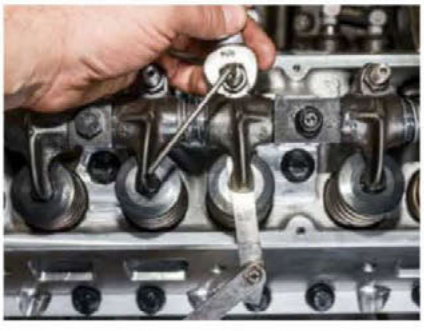


Since last time, we bolted on a Melling Oil Pump (PN MEL-M63HV) from Summit Racing and also slapped the 88cc chamber RPM cylinder heads from Edelbrock (PN 60185) with the supplied Edelbrock Head Gaskets. With the heads in place we installed the Vertical Guidebar Roller Tappets (PN 66442-16) that came with our solid lifter cam (installed at the machine shop) and pushrods (PN 64622-16) from Crane Cams. We then loosely assembled Crane adjustable rocker arms (PN 64770-16) on Federal-Mogul Sealed Power stock replacement rocker shafts (PN RS-612) also from Summit Racing. That cam we mentioned earlier is a Special Mechanical Roller cam (PN 68SR00009).





The last major mechanical part of the big Dodge V-8 is the intake manifold. The Dodge RB and Edelbrock intake manifold require the use of a factory-style valley pan. We used a Fel Pro valley pan (PN FEL-1215) from Summit Racing. Install the paper gaskets on both sides of the valley pan with Edelbrock Gasgacinch sealant (PN 9300) or other high-tack gasket sealant.



With a little advice from Crane Cams we began tackling the initial valve lash on the big Dodge/Chrysler. We used an initial lash setting of 0.012 inches on both intake and exhaust using a feeler gauge. Once the truck is up and running we will recheck the valve lash with the engine hot to the recommended 0.014 lash setting for the cam on both the intake and exhaust valves. With Edelbrock (or any) aluminum heads, the lash will open up with heat so we start with a slightly lower value while cold. We set lash on the intake of a given cylinder with the exhaust valve opening and exhaust lash with the intake valve closing.



With the valley pan in place we then added on the Edelbrock Intake Manifold (PN 7193) and bolted it in place using ARP's intake manifold bolt kit (PN 144-2101). The intake manifold is designed for street use with a high runner design to handle our stroker engine. Torque to spec following the pattern and settings laid out in the Edelbrock instructions.



With the valvetrain held in place and after installing a Milodon timing cover (PN 65651) and a Summit Racing Harmonic Balancer (PN SUM-163383), we then flipped the engine over and added a Milodon Oil Pick Up tube (PN 18660), Summit Racing oil-pan gasket (PN SUM-G2338), Moroso 5.5-quart oil pan (PN MOR-20765), and Milodon oil-pan bolts (PN 85020) all from Summit Racing.



If the engine is going to bring air in, it needs to let it out. We searched around for a while looking for a set of headers that would maximize our engines performance while conforming to our tight packaging requirements. Our answer was these shorty headers from Headman Hedders (PN 78070) from Summit Racing. We were pleasantly surprised that the headers not only came with exhaust manifold gaskets and collectors but also included the fasteners to bolt the headers to the Edelbrock Heads. Nice!



With the engine beginning to look like something and getting to the point that its nearly sealed up (from the outside environment), we then switched gears to building a transmission and transfer case mount for the Dodge NP435 and Off Road Design's adapted NP203/NP205 Doubler. That means digging it out from storage, blowing the dust off the parts, and using our engine hoist to move the heavy combination around. We then set the drivetrain on jack stands so we can access the adapter mounting feet.

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By stacking some Daystar body pucks for a CJ-5 (PN KJ04001BK) and adding some custom steel mounts we can build a cradle that will hold the heavy drivetrain and yet isolate the engine/transmission/transfer case combination from the rigid TJ frame. To start, we mocked up some brackets out of scrap steel and angle iron. It's hard to believe this pile of parts will eventually become a heavy-duty transmission/transfer case mount. Trust us.



With a good idea of where the six body mount pucks would live, we built this box to act as the base for our cradle. Sure we could have used the bender to make round off the corners, but we want Wicked Willys to be sharp and edgy. These little touches will give the Jeep its "attitude" when it's all done.

The cradle will sit under the transfer case and grab the mounting points on both the adapter between the NP435 and NP203 and between the NP203 and NP205. The three points should allow the drivetrain to move a little under load but will also hold these parts rigidly in place when we apply the ample power from the big, stroked Dodge V-8.



Add a little paint and some bolts to put the new parts together. Now we can sling the drivetrain between the framerails and use the cradle to attach the drivetrain to the frame once we are sure we know where it and the engine need to live. The square cradle also will help us as our borrowed motor cycle jack can support the transmission/transfer case safely while we position the engine.

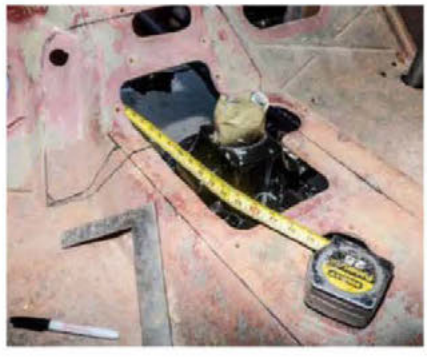


The other components that will help hold the drivetrain in place are the motor mounts. When we bought the 440 way back when it came with these pretty nice modified motor mounts. The polyurethane inserts (again from Daystar) and 1¾-inch, 0.120-wall DOM tubing make for a pretty sweet setup for our Willy's engine. The welds on the motor mounts are not the best looking, but we bet they will hold. This style of mount allows easy mounting to just about any frame rail.





To send the power from the 505ci Dodge to the truck transmission, we need a pilot bearing, flywheel, clutch disk and pressure plate. Our pals at Centerforce Clutch were happy to help us assemble the right parts. The Eagle Stroker Crank uses an eight-bolt pattern like that of an early 426 Hemi (while the factory 440 crank was a six-bolt). Our factory Dodge aluminum bell housing will allow the use of up to about an 11-inch clutch. Our NP435 uses a 1-inch, 23-spline input shaft. The trick is to know what parts to order for a 426 Hemi (flywheel and pilot bearing, PN National PB-286-HD) and which parts to order for a '73 Dodge 440 (clutch disc, pressure plate, throwout bearing).



To get an idea of where everything needs to go, we rolled the transmission/transfer case under the frame and cab of the truck. By taking an engine length (from the flywheel pulley to the bellhousing mounting surface), we get a pretty good idea where things need to be. Unfortunately, in order to keep the truck low and the drivetrain high, we will need to cut out some of the Willys original floor. That's OK—we knew it was coming. By carefully laying out where to make the cuts, we should be able to reconstruct a good looking doghouse to cover the hole for the drivetrain.

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Summit Racing, 800/230-3030, summitracing.com

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BROKE BACK JEEPER



Modifications for a messed up back

By Justin Majich
jpeditor@jpmagazine.com
Photography: Pete Trasborg and Justin Majich

Most of our male readership will be able to understand what I mean when I say that we tend to do some stupid stuff. The crap that we guys get into is just amazing. The reasons don't really matter. You could be trying to impress a girl or just trying to be the baddest dude on the block—it's the results that I'm talking about here. The implement of your physical destruction doesn't mean a whole lot either. A friend of mine and I are in pretty much the same boat, so to speak. I wrecked myself doing stupid stuff on motorcycles, and he wrecked himself doing stupid stuff on skateboards. Any way you look at it, we're both pretty messed up individuals who walk around looking twice our age.

A few years ago, I didn't even own a four-wheel-drive vehicle. All of my off-road travels were by motorcycle. A major portion of my on-road travels, as well as commuting to work, were as well. After a particularly nasty wipeout on a dry lake bed, I was pretty much done riding. I was in such an incredible amount of pain that I could hardly get to the bathroom, let alone ride the bike. After going through surgery and spending well over a year in physical therapy, I was back to work and looking to buy a new vehicle. I knew I wanted something with four-wheel drive because having grown up with hunting, fishing, and other outdoor pursuits is not an easy thing to let go of.

Eventually I picked up an '11 Jeep Wrangler Rubicon. It worked out well for getting me to work and still being able to get my weekend dirt fix. However, being a not-so-intelligent type, I just don't really know when to stop. After pushing too hard for too long, I was having a lot of pain again. The pain was getting so bad that I was almost unable to drive my JK. I narrowed the problems with my Jeep down to two major issues. The first issue (and one that a quick internet search shows that I am not alone in) is that the factory seats are not the greatest. They're more comfortable than a lot of other factory seats I've ridden in, but the padding and seat frame were not shaped well and there was no lumbar support. The second issue I was having was in the amount that my body would move around in the seat. Factory seats and safety belts are made to fit a wide range of body types. I was finding that I was causing myself a lot of pain by trying to keep myself in one position while driving my JK, especially when off-road. After examining the problem for a bit, I came to the conclusion that new seats and harnesses were required.







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Once we got the doors off, as well as moved all that various junk that seems to accumulate under and around our seats, a pneumatic impact gun made quick work of the seat bolts. This is another one of those spots where it was nice to have a friend around. The factory seats weigh a ton. My back problems just wouldn't let me get them out by myself.



We had a bit of a whoops here. As it turns out, there are two different floor pans for the JK. From '07 to '10, the two and four-door models share a floor pan. With the interior changes in the '11 JK came a new floor pan for the two-door models. A call to Corbeau USA saw the correct brackets on their way to us in short order.



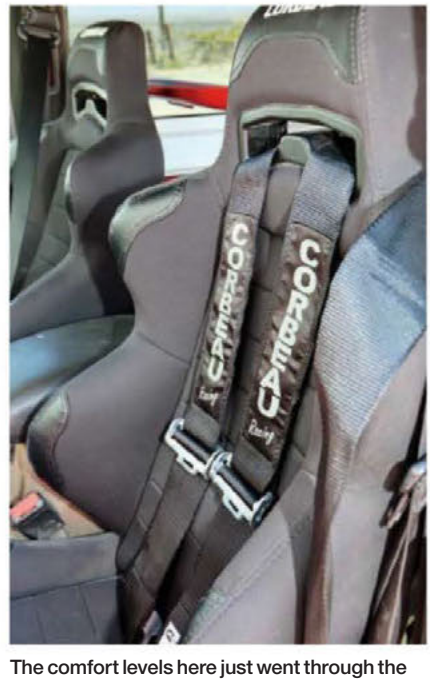
When we installed our seats and harnesses, we realized we didn't have the floor tabs for the lap belts. Luckily we did have some ⅜-inch thick steel angle, a drill press, and a 7/16x20 tap. With a little careful measuring we were able to make the tabs, using the factory seat bolts, and tapping the upper holes to use the bolts included with harnesses.



It's a pretty tight fit on the inboard bolt for the harness. Since I was keeping the factory seat belts as well, I needed to fiddle around to make sure the lap belts wouldn't rub on anything sharp. It might just be me, but a safety belt with a cut in it just doesn't sound like a good idea.



While it may come down to personal preference, I chose the five-point, latch-link style harnesses for this project. Cam-lock harnesses are fine for a street car. The dirt we see off-road just tends to gunk them up, however. That gunk can lead to them not latching properly, meaning they don't hold you in when they're supposed to.



The comfort levels here just went through the roof. The bigger bolsters on the seats, inflatable lumbar support, and the harnesses all work perfectly. I still have use of the factory seat belts for those quick trips to the market. Off-road, however, I can strap in with the harnesses and keep my upper body nice and stable.

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While researching seats and harnesses, I came across a couple of different methods of securing the straps to the cross bar. The first one is to weld two tabs to the bar and bolt the strap to it using the included tab. The second, and the one I chose, was to wrap the strap around the bar and secure it with the three-bar slide.



Doing my research on the internet meant I had to dig through quite a few web wheeler boxing matches. One of the things everyone agreed on though is that once the strap is fed through the slide and properly adjusted, the end must be fed back over itself and through the last bar on the slide. This prevents it from working its way loose during use.

A harness bar is mandatory for proper harness install. Rather than weld one into the factory roll bars, I used Rockhard 4x4s bolt-in harness bar. The clamps are extremely tight, and it's definitely easier to have a second person handy to help with this. You will have to do a little cutting though. Some of the plastic under the padding needs to be trimmed away.

With my factory seats, I had my fire extinguisher attached to the lower frame with some double sided Velcro strap. It was a good, yet inexpensive, solution but wouldn't work with the Corbeau seat brackets. Editor Trasborg had a couple of these mounts, from Drake Offroad, lying around that he had been wanting to use, so we thought we would give them a try.

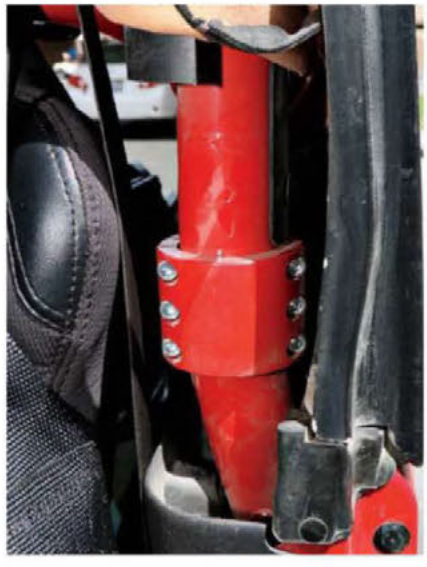




A few stainless steel hose clamps from our local hardware store turned out to be a good solution for attaching the Drake mount. Attaching it to the harness bar between the seats keeps it within reach of both the driver and passenger. It took a little bit of fiddling with the exact position, but I was able to get it so that, even with the seat reclined, no one will hit their head on it.

Drake Offroad also has the same style mount for longer objects such as shovels. Not being one to like heavy objects bouncing around inside my vehicle, I thought this would be a good spot for the shovel. It's up high enough that it doesn't get in the way of any cargo I put in the back, but it's still very secure.





After Getting a Few Miles on Them

I can honestly say that this is one of the best mods I've done. I didn't realize how uncomfortable the factory seats were until I got the new ones in. The seats I chose are good for up to a 38-inch waist, and mine is 34-inches. This allows for just enough room to be comfortable, without a bunch of excess space to slide around in. The cloth seats, as opposed to the factory leather ones, gives me some traction under my rear that also helps dampen the movement. The harnesses work so well that I use them almost exclusively. Any trip longer than one or two blocks and I wear the harnesses. Pulled tight, they hold my body nearly rigid. The only thing that I had to adjust to was not being able to turn around as well. Having been a truck driver, I am used to only using my mirrors, but it was something to adjust to none-the-less.

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Drake Automotive Group, 800/999-2060, drakeoffroad.com

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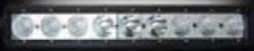
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PROJECTOR HEADLIGHTS NEW
07-15 JK WRANGLER IN SMOKED/CLEAR



264274BK
264274CL

RECON's proud to announce their cutting-edge LED Jeep Wrangler 2007-2015 LED Projector Headlights with industry leading lumen output and the widest beam angle available for your Jeep Wrangler!

UNDER VEHICLE LIGHTS

26417

NEW ROCK LIGHTS

264515 (Available in Red, Blue, Green & White)

FRONT TURN SIGNAL LENS & SIDE FENDER LENS
JK WRANGLER 07-15



264134CL **264134BK**
Jeep 07-15 JK Wrangler Round Front Turn Signal Lenses with Amber L.E.D.'s Located Under Front Headlights



264135CL **264135BK**
Jeep 07-15 JK Wrangler Round Front Fender Lenses with Amber L.E.D.'s Located on Front Side Fender



Available in White LEDs

264134WHBK Jeep 07-15 JK Wrangler Round Front Turn Signal Lenses with White LED's Located Under Front Headlights - Smoked Lens

264134WHCL Jeep 07-15 JK Wrangler Round Front Turn Signal Lenses with White LED's Located Under Front Headlights - Clear Lens

264135WHBK Jeep 07-15 JK Wrangler Round Front Fender Lenses with White LED's Located on Front Side Fender - Smoked Lens

264135WHCL Jeep 07-15 JK Wrangler Round Front Fender Lenses with White LED's Located on Front Side Fender - Clear Lens

LED TAIL LIGHTS
JEEP WRANGLER 07-15



264234CL Clear
264234BK Smoked
264234RDBK Red Smoked
264234RD Red



Jeep 07-15 JK Wrangler LED Tail lights are available with Smoked, Clear, Red Smoked & Red Lens. RECON's new Jeep Wrangler LED tail lights are sold as a set & boast a simple plug-n-play installation.

NEW LED 3RD BRAKE LIGHT
JEEP WRANGLER 07-15

264127BK Jeep JK Wrangler 07-15
264127CL RED LED 3rd Brake Light

LED DOME LIGH KIT



264161HP GM High Power Dome Light Set LED Replacement - Fits GMC & Chevy 00-07 Sierra & Silverado (CLASSIC BODY STYLE) & Jeep Wrangler 07-14 - 1 Set Required for Both 2-Door & 4-Door Trucks

264161 Jeep 07-15 JK Wrangler LED Dome Light Replacement Kit.

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WINCHES

Snatch Block, 4-Way Roller Fairlead, 92ft of 7/16" Aircraft Grade Steel Cable



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17,500LB BRUTE FORCE Series Winch

264100PPW
10,500LB Pro Performance Series Winch

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CATCHING UP (WITH KATIE)



Moving forward—sadly

By Katie
jpeditor@jpmagazine.com
Photography: Levi Jansma

If you haven't figured it out by now, our friend and editor of *Jp*, Pete Trasborg, passed away in May. This month I had a story about some Jeep product, but due to recent events, I changed my mind. Yes, I can do that. This month it's about my friend and former boss, as it's the right thing to do.

Pete was a man of many things—the one we all knew him by was JPete. He loved his Jeeps—all of them—and that happened to be many Jeeps. His work was his life. I first met him due to work; he was in Grand Junction, Colorado doing a story on 21 Road. He asked my husband about his Jeep and I jumped in and declared it was my Jeep. It took off from there. He saw me drive that day and was shocked that I took my JK on the trail with 35-inch tires and made it look like I did it all the time. A couple months later, the mag put me in the Jeep Chix edition of Sideways. A while after that, Pete messaged me on Facebook asking for a Jeep girl. I was thinking he wanted more photos of me wheeling, but little did I know of his intent at that time. Here I am about a year later, writing in the magazine about this great man.

Pete was amazing and would do anything for you, as long as you were truthful to him. He and I would talk daily to make sure this was going the right way that he wanted. When I met up with him in Moab for Easter Jeep Safari 2014, my mind was blown. So many people already knew who I was because Pete made sure of it. I knew Pete both as my boss and as my friend. He knew myself and my family as his family, my daughters know him as Uncle Pete and will always know him as that. He was an amazing man; from his knowledge on Jeeps to his knowledge on life. I have called him (only God knows how many times) about a question on a Jeep or an axle. He would always have the answers. You can say our relationship was more personal than work, but that was the type of person he was. That man took me under his wings and made my column Catching Up (with Katie). We talked for days before we made it that, and there were some other crazy titles for sure. Between work calls and personal calls, we could talk about everything. It would be a "why do you get to go wheeling and I don't?" type conversations to "have you seen the new Jeeps?" to tossing me in another creek or maybe himself as a joke for the magazine.

If you only knew him from just his articles, you knew how much he loved Jeeps. If you got the chance to meet him and be around him, you knew him like I did. This is one of the hardest columns I have written due to it being personal, and I don't want people feeling bad—I want them to know how much this magazine meant to him. It was truly his life. One of the last things he told me was he was proud of me and it is always a pleasure to work with me and to talk to me daily. He will never be forgotten in the *Jp* family, in the Jeep community, and in so many peoples' lives. I only knew him for a short time, but it seems like a lifetime with the amount we spoke. Pete will always live on in my life, and I'm sure I will catch myself asking what Pete would do or how Pete would fix something. Then I remember he would most likely break a tool trying to get that part fixed, which would then go flying. He'd then grab another tool and get the job done.

We all miss you and love you. Rest peacefully, Pete.

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LOT 68049/62326
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- Weighs 77 lbs.

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Haul Master



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NEW PRODUCTS

By John Cappa
jpeditor@jpmagazine.com

Tight 'N Tidy

Mr. Gasket introduces HeadLock header bolts to help eliminate header flange exhaust leaks. The bolts feature 24 serrated teeth incorporated into the flanged hex/socket head for gripping the header flange surface, providing a locking action. A reusable high-temperature thread-lock patch prevents the bolts from backing out and provides a positive thread seal. Each bolt is made from premium grade-8 stainless steel for strength, durability, and corrosion resistance. Lock washers are no longer needed. The HeadLock header bolts are available for a variety of popular domestic applications, including AMC, Chevrolet, Chrysler, Ford, Oldsmobile, and Pontiac engines. **Information:** Mr. Gasket, 216/658-6413, mr-gasket.com



More Light

Need more lighting and have no place to mount it on your '07-current Jeep Wrangler JK? Rock Hard 4x4 now offers a 20-inch LED Bar Hood Mount for just that situation. The in-house-designed and 100-percent-made-in-the-USA hood-light mount requires no drilling and is said to install in minutes. The mount kit includes stainless steel hardware and utilizes existing factory holes. No special tools are needed for installation. Each mount is powdercoated black. LED lightbar not included. **Information:** Rock Hard 4x4, 844/762-5427, rockhard4x4.com





Confined Welding

Miller Electric now offers the new Weld-Mask auto-darkening welding goggles. They feature an extremely low-profile design that allows welders to fit into tight spaces where a bulky traditional welding helmet might not fit. The Weld-Mask can be adjusted to several shade numbers, including 3, 5, 7, 9, 11, and 13, making it usable for gas welding and cutting, as well as light-duty MIG, TIG, and stick welding. A flame-retardant head cover provides protection against UV/IR rays and light weld spatter. The replaceable silicon skirt is said to ensure a proper fit for a variety of face profiles. The Weld-Mask can be used under hard hats, and battery life is said to be 1,000 hours. A lens frame is included for the addition of a prescription or magnifying lens. The Weld-Mask meets ANSI, CSA, CE, and AS NZ standards. **Information:** Miller Electric Mfg., 920/734-9821, millerwelds.com



Top Top

Bestop recently unveiled the new Trektop Pro for two- and four-door JK Wrangler Jeep models. It's the industry's first hard rear glass hatch on a soft top. The premium 30-ounce triple-layer black-acrylic twill fabric is said to deliver maximum durability and a superior, no-wrinkle appearance. The top features Bestop's Sunrider flip-back panel for open-air driving. It weighs up to 50 pounds less than a hard top, and the sliding-glass side windows provide extra ventilation for the front and rear-seat passengers and pets. The rear glass hatch has gas-assist struts, an integrated defroster connector, and a rear wiper motor assembly mounting point. The rear hatch is also removable, unlike factory or aftermarket hard tops. With the side panels and rear glass removed, the Trektop Pro becomes a Safari Bikini for open-air driving. The top includes hardware, door surrounds, rear arch module, side windows, and safety glass hatch with built-in defroster connection. **Information:** Bestop, 800/845-3567, bestop.com



Magma Shielding

Heatshield Products introduces Lava Motor Mount Shields. They wrap around nearly any factory or aftermarket motor mount, creating a thermal barrier that protects the mounts from engine and exhaust heat and other elements that can reduce the longevity of the mounts. The Lava Motor Mount Shields can be used to protect rubber, polyurethane, and polygraphite motor mounts from heat, water, chemicals, and acids. They are made in the U.S.A. from crushed, melted, and then fibered volcanic rock. Lava Motor Mount Shields and are designed to withstand continuous temperatures of 1,200 degrees. **Information:** Heatshield Products, 800/750-3978, heatshieldproducts.com

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Hammer-Worthy IFS

With King of the Hammers racing technology trickling down into the enthusiast Jeep market, it may not be long before we start seeing more heavy-duty IFS or IRS conversions under Jeeps on the trail. That's where the new Dynatrac ProRock XD60-IFS axle comes in. It features a massive 10.1-inch reverse-cut, high-pinion gearset, 40-spline 4340 inner axleshafts, either 934 or series 30 flanges, and a nodular-iron case. The ProRock XD60-IFS accepts a full range of differential carriers, including air lockers and electric lockers. Gear ratios are available from 3.54:1 to 5.38:1. At 13.7 inches flange to flange, it's the narrowest differential in its class, which improves half-shaft angles, allowing for more suspension travel. The mounting points for the housing are an integral part of the casting. **Information:** Dynatrac Products, 714/596-4461, dynatrac.com



Ramp to Traction

The new Traction Jack is a simple compact folding recovery tool. It is made up of two pieces that are hinged together to provide a traction surface for a distressed vehicle. The hinge allows it to be folded and stored out of sight. It can be used in nearly any terrain, including sand, snow, mud, or ice. The basic kit folds out to 4.3 feet long and is capable of handling upwards of 10,000 pounds. A heavy-duty kit is available and can support just under 22,000 pounds. The Traction Jack can be used in other ways too, such as leveling a trailer or provide a solid standing surface in slippery mud. Each basic kit comes with two complete units and two leashes to pull them out from the ground. Premium kits will be offered later with the option of a folding shovel and carrying bag. **Information:** Traction Jack, 800/575-8547, tractionjack.com







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Part No. 45850 Application:
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Jeep Grand Cherokee '06-'14 5.7L & 6.4L

For Jeep 3.7L owners, the Distress calls for a coil per cylinder performance ignition has been answered! S.O.S. Coils provide improved throttle response, smoother idle, and quicker starting.



Part No. 45350 Application:
Jeep Commander '06-'08 3.7L
Jeep Grand Cherokee '05-'08 3.7L
Jeep Liberty '02-'08 3.7L



4.7L Jeep owners, do you want your engine to respond when you "Step On It"?
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Part No. 45450 Application:
Jeep Commander '06-'07 4.7L
Jeep Grand Cherokee '99-'07 4.7L

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NEW PRODUCTS





Fancy Filler

Drake Off Road announces the release of the new Billet Fuel Door finished in all black for '07-'14 Jeep Wrangler JK models. The fuel door assemblies feature CNC-machined closures with a smooth hinge mechanism and a magnetic retainer. The surround is made with stainless steel hardware, and the exterior of the door is decorated with a black and grey carbon-fiber pattern fuel badge. Each unit includes an OE-style plastic inner housing to mate with the factory fuel-fill system. **Information:** Drake Off-Road, 800/999-0289, drakeoffroad.com



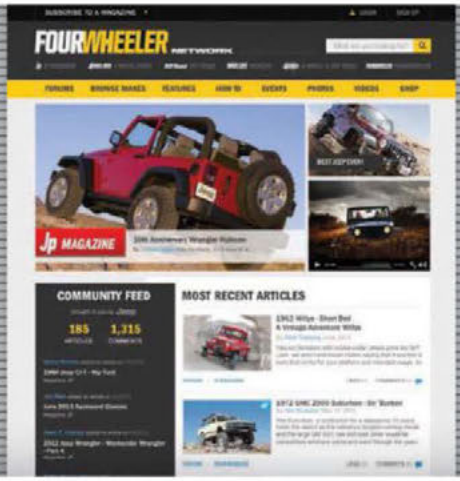
Bolt-On Round Spring

If you're looking to keep your '07-current Jeep JK Wrangler suspension soft-riding and flexible, the EVO Manufacturing Enforcer PRO Stage 1 kit might be for you. The suspension package includes the EVO front LCG bolt-on coilover kit, adjustable front lower control arms, draglink flip kit, and rear LCG bolt-on coilover kit. These kits come complete with all necessary parts to convert the JK from the coil and shock system to an adjustable coilover system. The kit provides 12 inches of usable wheel travel, while still maintaining a low center of gravity. The King coilover shocks are loaded with EVO-spec valving and spring rates, which is said to be specifically dialed-in for the JK. The kit can be adjusted to provide 3-5 inches of lift. Individual pieces are also available to upgrade your existing suspension system. **Information:** EVO Manufacturing, 714/879-8913, evomfg.com



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NEW PRODUCTS



Vented View

Ursa Minor Vehicles introduces the Quartermaster Sliding Windows for all Jeep Wrangler JK models. The Quartermaster is a split-window kit that features tinted glass, a locking latch, and a fine-mesh screen. The windows are available as an option on Ursa Minor Hard Tops and as a retrofit for OEM hardtops. They allow bug-free ventilation in the back of the Jeep. The windows are available for both two- and four-door JK hard tops. **Information:** Ursa Minor Vehicles, 619/424-9030, ursaminorvehicles.com



Add-On Electrical

If you need to add electrical accessories to your Jeep, the Ron Francis Wiring BlackBox Relay System may be what you need to do it safely and effectively. The BlackBox Relay System is fully programmable and allows full control of the 10 individual relayed circuits in one unit. It's capable of positive or ground triggering, and reverse polarity. With 20 amps per circuit, the BlackBox is even capable of stacking the relays to handle large loads, such as for cooling fans. A Bluetooth module that allows remote control and programming for both iPhone and Android applications should be available by the time you read this. **Information:** Ron Francis Wiring, 800/292-1940, ronfrancis.com

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Are you building a product that the Jeep world needs to know about? Take a high resolution digital picture (at least 1,600 by 1,200 pixels) and email it along with a brief description of the product to jpeditor@jpmagazine.com. Or, snail mail it to:

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– *Robert C., Missouri (Jeep Cherokee)*

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– *K.W., Colorado (Search/Rescue & Recovery Team Jeep)*



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JEEP SHOTS

By Ali Mansour
jpeditor@jpmagazinecom



Moral Compass

Wes Spencer of Chattanooga, Tennessee, says he's been a *Jp* subscriber for 10 years. He currently owns a '97 Wrangler and '12 Compass. The TJ is equipped with the stock 4-cylinder engine and is regularly wheeled at Prentice Cooper State Park and Aetna Mountain in Tennessee. The '12 Compass is his daily driver. During the 2013 winter storm that closed down Atlanta and many parts of the south, Spencer states that he put the Compass in four-wheel drive and took a coworker home that is wheelchair bound. It took five hours for what was normally 45-minute trip, but Spender got the job done. He writes "We passed everything from Camaros to Land Rovers in ditches, but the much maligned Compass preformed like a true Jeep!"



Family Farmed

Randy and Brenda Elle of Kamiah, Idaho, have a great story to go with their '46 Willys CJ-2A. Originally purchased new by Brenda's grandpa, the Willys worked on the farm for decades before the couple purchased and restored the rig in the '90s. The couple swapped in the Buick V-6 and Saginaw three-speed transmission in 2012 and added power steering and disc brakes at the same time. Splitting power to the Dana 25 front and Dana 41 rear is a Dana 18 transfer case. A 2½-inch lift, along with Bilstein shocks, help control the 37x12.50R15 Super Swamper TrXus mud-terrain tires. A gear ratio of 5.38:1 was fit inside the diffs, along with Lock-Right Lockers. The rig is primarily used these days as a snow wheeler and to run mild trails around the area.



Eller-Bay

Under the hood of Devon Eller's '42 Willys MB is a built 355ci Chevy V-8. Taking that power is a Muncie SM420 manual transmission, Dana 20 T-case, and Dana 44 axles. Both Dana 44 axles got a helping of 4.10 gears and selectable OX-Lockers. The spring-over conversion uses 2½-inch lift springs and Bilstein shocks. All of this helps Eller clear the 39½-inch Pit Bull Rockers mounted on 15x12 Allied beadlocks. Eller states that the Willys was originally purchased on eBay, but he quickly realized the rig wasn't as described when he took delivery. Eller decided to completely rebuild the Willys from the ground up and start over with everything you see here today.



Meet The Millers

This submission came from Conner Miller, a 12-year-old that's a big Jeep enthusiast. The '04 Wrangler Rubicon belongs to his parents, David and Diane. The Miller family uses the Wrangler to explore around their hometown of Warren, Indiana. From the looks of it, they have no trouble finding snow. Taking the TJ up a notch from stock is a set of 33-inch BFG Mud-Terrain tires, Spidertrax wheel spacers, JKS suspension system, and AEV coil springs. The 4.0L, along with the manual transmission and Dana 44 axles, all remain stock. Other upgrades include a Skid Row gas tank skidplate, AEV engine skidplate, Currie Currectlync steering, and a Jeeperman sliders.


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OKTJ

Brandon Farnsworth of Oklahoma City, Oklahoma, has an assortment of off-road wares intended to help make his '00 Wrangler Sport better off-road. A selectable OX-Locker was installed in the Dana 30 front axle. Out back, the stock Dana 44 was gifted with a Detroit Locker. Both diffs were served with 4.56 gears to drum up more tire-spinning power. A total of 5 inches of lift was achieved by merging parts from Skyjacker and Rough Country Suspension. A Hi-Lift Jack, custom fenders, rocker guards, and roof rack finish out the list of modifications.



Father's Day

Tim Plume, from Sophia, North Carolina, has a great story to go along with his '93 Wrangler YJ. He writes: "My son bought this Jeep in stock condition years ago. We lifted it, and he drove for a few years until the motor went bad. He moved to Colorado and bought a new '07 Jeep. He called me one Father's Day and asked if I wanted it after it had sat in a field for over two years. Of course I did! My friend (Allen Authenreath) and I pulled the motor and transmission and then replaced the bad engine with a used replacement. It was on the road by Thanksgiving that year. Since then, it has evolved a little." Other details of the YJ include an AX-15 manual transmission and NP231 T-case with a slip-yoke eliminator. The Dana 44 front axle and Dana 60 rear axle were plucked from a '85 J20 truck and fit with disc brakes and 4.88 gears. The leaf springs are from Rubicon Express, and the bumpers are from Warn. The Xenon fenders and Herculined accents finish out the rest.

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JEEP SHOTS



No Hummers

Alan Parks says that he loves his '06 Unlimited Rubicon but his wife hates it. He states that immediately after brining it home in 2007, she asked, "Why did you buy that? Why didn't you buy a Hummer?" Thankfully, Parks knew better. Hopefully by now his wife has learned that his TJ-L is bettered suited for their wheeling adventures than a Hummer.



Chrome Star State

Charlton Winder of Lubbock, Texas, is steadily working toward making his '13 Wrangler Unlimited Rubicon a more capable 4x4. The four-door JK is fit with a Rock Hard 4x4 front bumper, Warn PowerPlant, KC lights, and Olympic 4x4 sliders. Despite the stainless steel door handles and chrome accents, Winder states that he is not afraid to wheel it. Currently, he has a 4½-inch AEV suspension system waiting in his garage, which should allow him to go even farther down the trail.

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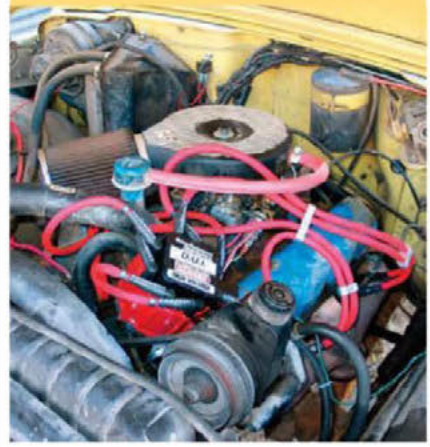
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YOUR JEEP

By John Cappa
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AMC-Eight or Not

I have a '77 CJ-5 with the AMC 304ci V-8 in it. The Jeep has a T-18 four-speed manual transmission with a low First gear and a Dana 20 transfer case. The Dana 30 frontend has heavy-duty axleshafts and a Detroit Truetrac limited-slip differential. The rear axle is an AMC 20 stuffed with an Auburn Ected electric locker and Mark Williams one-piece axleshafts. Both axles have 4.10:1 ratio gears. The front suspension has been converted to a shackle reversal. I'm slowly rebuilding this Jeep. I like to play in the mud and sand and go hillclimbing. My next project is the engine. I'm not sure which way to go. I have an AMC 401 that needs to be rebuilt. It's going to be pretty expensive by the time I rebuild it and install fuel injection. I know that probably the best way to go is to get a salvage-yard LS1, but I'm not a big Chevy fan and don't know if I could put one in my Jeep. Another option is the Hemi V-8. I'm just not sure which way to go.

Chris Riley
Via email

If cost is the major issue, I can simplify your options: The Hemi swap will generally be several times more expensive and complicated than some of the other more common EFI engine swaps, so let's scrap the Hemi idea right off the bat. While it's true that it's hard to beat the dollar-per-horsepower cost of an LS engine, you have to keep in mind that it is still an engine swap. You need a lot of new components to make the engine fit and function in your engine compartment. Additional parts that many people forget about include a new radiator, fan shroud, motor mounts, complete exhaust, bellhousing, clutch, flywheel, fuel system, and more. The cost of all of these parts adds up quick.

Now, the AMC 401ci V-8 that you have is pretty much a bolt-in swap in place of your 304. As long as everything is in good shape, you should be able to reuse all of your accessories, bellhousing, exhaust, motor mounts, radiator, and so on. This will be a huge cost and time savings. If you were swapping in another model engine, your Jeep would likely be out of commission for several weeks while you make the required modifications. If you stick with the AMC engine, you can keep using your Jeep while the 401 is being rebuilt and likely make the swap from the 304 to the 401 in a weekend. You can add an affordable Howell EFI (howellefi.com) fuel-injection kit during the swap or after it is completed.

JK Planner

I'm planning on building a two-door Jeep JK Wrangler. My goal is to build a reliable wheeler with my 12-year-old son. I live on the East Coast and do most of my wheeling here. This Jeep will not be a daily driver. We will be doing as much of the work as possible, but we may need to get a shop involved for certain things. The major components of my plan are:

- Base two-door JK with manual transmission
- 37-inch tires
- 2½-inch Rock Krawler X-Factor Mid Arm System with a ¾-inch spacer up front to level out the stance
- Aftermarket flat-style fender flares for additional clearance for the tires if needed
- Dynatrac ProRock 44 front axle with RCV axle shafts
- Upgraded rear axleshafts
- ARB Air Lockers front and rear
- Replacement driveshafts
- JKS front track bar and sector shaft reinforcement kit
- Rock Hard 4x4 fuel tank, transfer case, oil pan, transmission, and catalytic converter skidplates

Do you have any comments on my overall plan? What axle gearing do you suggest? Are there clearance issues when using the Dynatrac axle and the JKS track bar and sector shaft reinforcement kit? What do you suggest for rocker protection? My personal preference is a manual transmission. Aside from personal preference, is there any reason to pick one transmission over the other? I feel like it makes sense to engineer a weak link into the driveline. I'm thinking the right place for this is the driveshaft U-joints, since it is a whole lot easier to carry spare U-joints than spare axles. Am I thinking about this right or am I missing something? I appreciate your time and any comments and suggestions you may have.

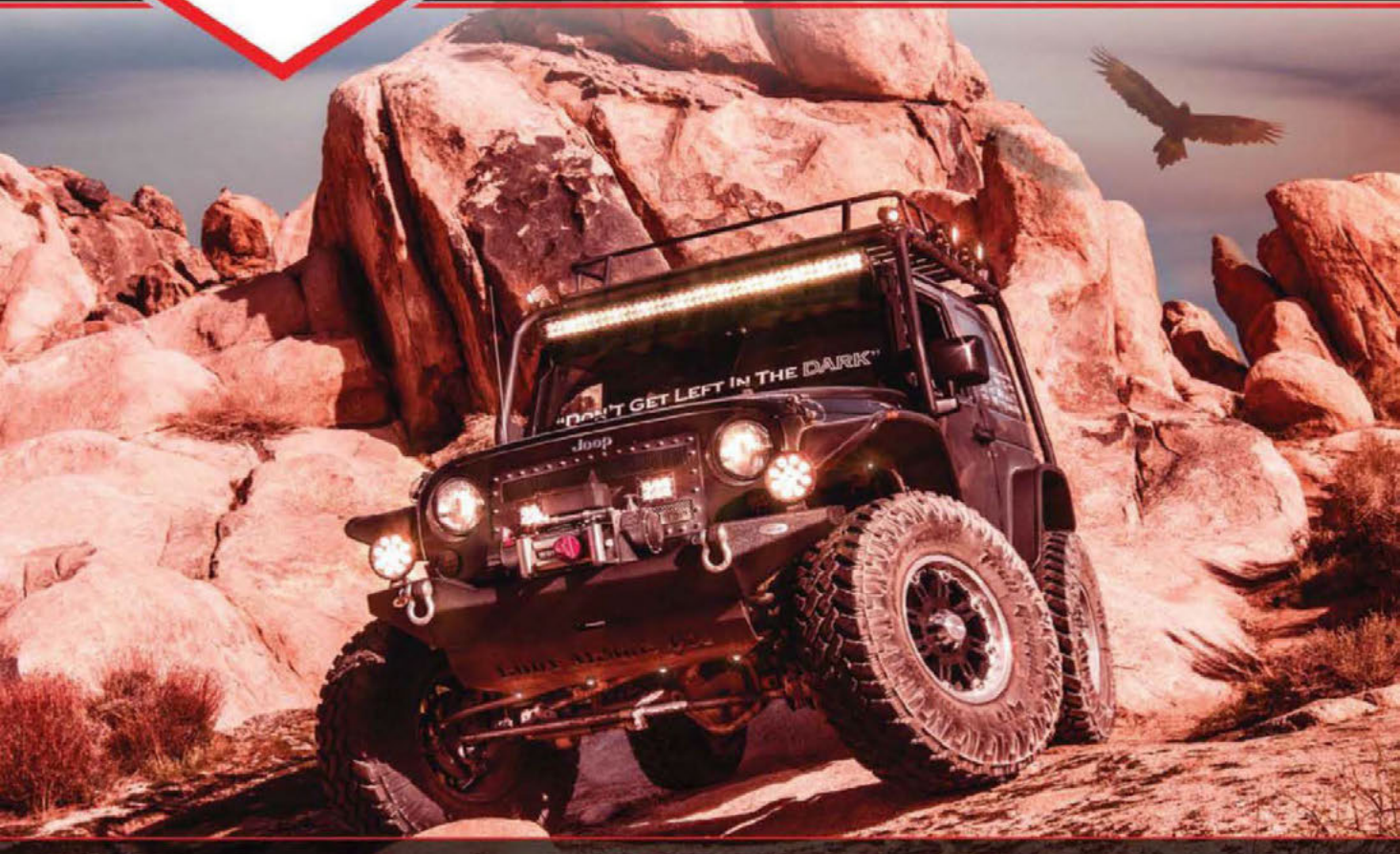
Curt McKay
Via email

You probably don't want to hear this, but I usually try and talk JK owners out of stepping into 37-inch tires. The 37s cause a lot of stress on the factory drivetrain and steering components. It's basically as big as you really want to go with the JK Dana 44 axles, regardless of if you upgrade to the Dynatrac (dynatrac.com) ProRock 44 front axlehousing and heavy-duty rear axleshafts. If you baby it and don't beat on

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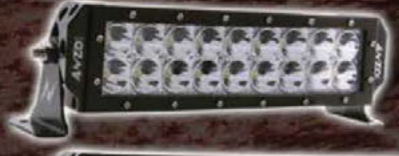
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it mercilessly, you can make this combination survive fine. But if you are an aggressive driver, you will eventually need to swap in bigger axle assemblies. In most cases a 35-inch tire is a better choice if you plan to keep the Dana 44 axle assemblies and stock steering bits.

With that out of the way, I think you have a solid plan in place. You will need to trim or beat back a bit of sheetmetal in the rear wheelwells but nothing major. As for axle gearing, I would go with as deep a gear as you can stand since it's not a daily driver. That would put you into the 5.13 or 5.38 range with the 37-inch tires. These deeper gears will complement the manual transmission and the 2.72:1 low range in your base-model JK transfer case.

The Dynatrac ProRock 44 heavy-duty front differential cover and cover bolts could make contact with JKS (jksmfg.com) sector shaft support bar, depending on how much uptravel your Jeep has. You may be able to adjust the control arms for the necessary axle clearance.

The type of rocker protection your Jeep will need depends on personal preference and the type of wheeling you plan on doing.



The body tub of the JK is pretty thin and can be easily smashed. Adding plate-style body-mounted rocker guards sometimes isn't enough to protect the panels. The thick plate-steel rocker guards can push into the tub. For heavy abusive rock use, it's hard to beat standalone tubular rocker guards like the EVO Manufacturing (evomfg.com) Rock Sliders. You'll lose a little ground clearance with a tubular rocker like this, but they generally protect the body better in harsh environments. For more traditional 4x4 use, the plate-steel rocker guards are the best choice in my opinion. Look for plate-style rocker guards that attach to the body and body mounts on the side of the frame. Companies like EVO Manufacturing, Synergy Manufacturing (synergymfg.com), and Poison Spyder Customs (poisonspyder.com) all offer solid plate-style rocker guards.

I prefer a manual transmission too. However, the NSG370 six-speed manual transmission that comes in the Jeep Wrangler JK can be a little fussy with high-mileage on big tires. The optional automatic transmission is probably a little tougher but not by enough to sway your decision. An automatic transmission has another advantage too. The torque converter and the inherent design of an automatic transmission can cushion the spiky torque loads produced by the engine when driving off-road. This cushioning effect can make driveshafts, axleshafts, U-joints, and other drivetrain components last longer. A manual transmission provides a much more direct drive and can shock-load the drivetrain more easily than an automatic transmission if you don't drive carefully. Generally, a manual transmission will get better fuel economy too, but that doesn't appear to be a concern for you.

Personally, I think engineering a weak link into anything is a foolish move in most, but not all, cases. Using a driveshaft as the weak link causes several issues. Replacing a broken U-joint is no big deal and they are small and easy to carry. However, when a driveshaft U-joint lets go, there is usually other collateral damage that occurs. There is a lot of torque and/or rpm involved in driveshaft failure. This causes the driveshaft to fling around wildly under your 4x4. The untamed driveshaft can hit and damage an oil pan, wiring, exhaust, and so on. It can also smash against a rock, causing a dent in the tube, making it



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unusable, even if you have a spare U-joint. I've even seen busted driveshafts scatter transfer cases and transmissions when they get bound up under the vehicle. Sometimes the yokes become damaged when a driveshaft busts loose, too. The hardware will also need to be replaced in most cases. Instead of building your driveshafts as a weak link, I'd recommend using a quality driveshaft with the proper-sized yokes and U-joints. This will ensure that you don't end up stranded on the trail. It's still a good idea to carry spare U-joints and driveshaft hardware, though.

Gearing Select

I have a '10 two-door Wrangler Sport with 3.73:1 ratio axle gears and an automatic transmission. My Jeep has an AEV 2½-inch lift and 35-inch tires. I want to regear the axles to offset the tire change and improve power. I am considering 5.13:1 or 4.88:1 ratio gears but have read from some people who say the front Dana 30 cannot handle either gear (4.10 is the deepest available). My Jeep is not a daily driver, but it spends most of its time on the street.

Erik Hicks
Via forums.fourwheeler.com



Regearing your axles is the single most noticeable and cost-effective perceived power improvement you can make to your Jeep once you've added larger tires. The simple way to look at it is that adding larger tires to your Jeep decreases the amount of leverage your engine has available to spin the tires. Regearing the axles to a deeper (numerically higher) ratio gives the engine more leverage to spin the bigger tire. Think of it as increasing the length of a prybar to move an object. A longer prybar (deeper gears) will more easily move an object, causing less strain on your engine and other driveline components.

The '07-current Jeep Wrangler JK enjoys a wide variety of aftermarket parts. The Dana 30 front axle in your Sport model has plenty of gear ratios available that will work just fine in your application. Alloy USA (alloyusa.com), G2 (g2axle.com), Motive (motivegear.com), and Yukon (yukongear.com), among others, all offer both 4.88:1 and 5.13:1 ratio ring-and-pinion gearsets for your Dana 30. I think you will be happier with the 4.88 gears if you make regular high-speed (70-80 mph) jaunts on the highway. However, if your Jeep spends most of its time around town, the 5.13 gears will make it feel even peppier. The 5.13 gears will increase the rpm a bit much for a Jeep JK on 35s that sees a lot of high-speed cross-country use.

Don't forget to correct your speedometer. Altering tire diameter and/or axle ratios can cause it to read inaccurately. Correcting the speedometer with one of the many programmers available from companies such as AEV (aev-conversions.com) and Pro Comp (procompusa.com), among others, will not only help let you know exactly how fast you are going, it will keep the drivetrain computer from becoming confused. The computer needs accurate speed-sensor input to properly shift the automatic transmission.

Big Battery

I have a '06 Jeep Wrangler Rubicon. What is the largest battery I can install? Hopefully, this will cure the problem of my alternator gauge dropping into the red when I am under a heavy pull with the



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winch. The "Check Gauges" light comes on and I watch the gauge continue to drop when winching.

Name Withheld
Via forums.fourwheeler.com

In most cases, a quality battery can handle general basic winching duties. For longer and more difficult pulls, it's a good idea to upgrade the electrical system. A winch can draw an enormous amount of power that typically exceeds the alternator output. The only real way to keep up is with a better battery or maybe dual batteries. I'd recommend switching to a deep-cycle starting battery like the Optima Batteries' (optimabatteries.com) YellowTop. The YellowTop can easily recover from a heavy load, such as winching, that can cause internal damage to other lesser batteries. The other advantage is that the Optima battery will never leak acid into your engine compartment, even if you roll your Jeep over. It's simply a much better battery that is designed to handle increased vibration and the other elements that a Jeep sees.

For extremely heavy and long arduous winching, you may want to consider adding a second battery. Wrangler Power Products (wranglerpower.com) among other companies, offers bolt-in mounts to fit multiple batteries under the hood of your Jeep. If you find that winching regularly becomes an all-day adventure, you may also want to upgrade your alternator too. An alternator with a higher amp output will help your electrical system recover more quickly from a heavy pull.

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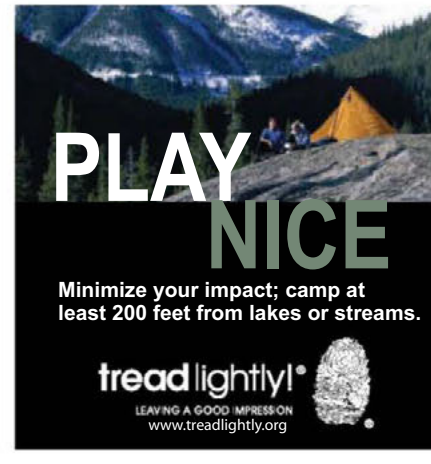












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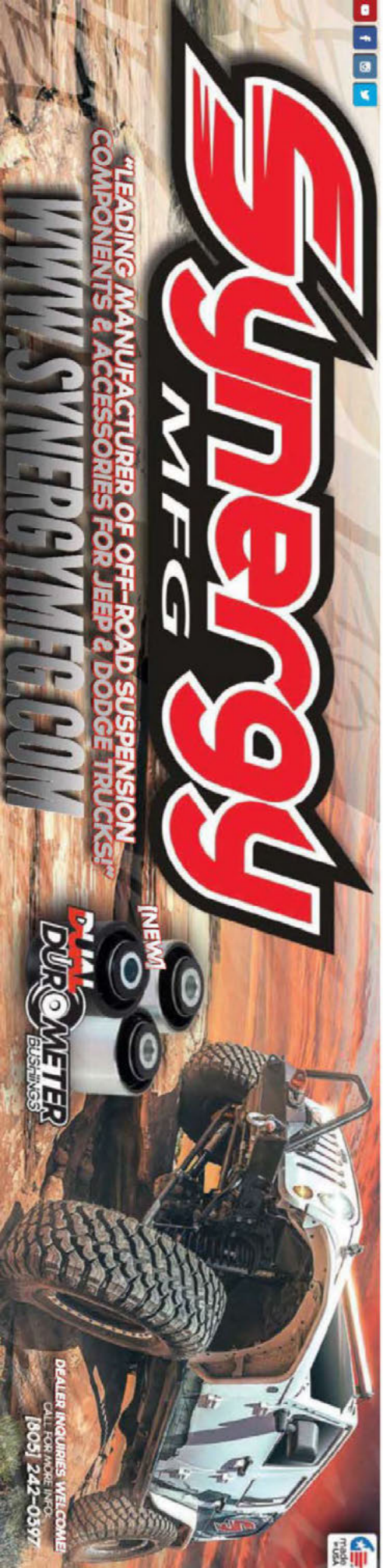


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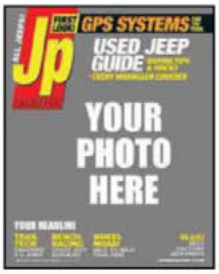
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SIDEWAYS

By Tori Tellem
jpeditor@jpmagazine.com

Jeep Chix

It's ladies. It's Jeeps. It's Jeep Chix: the best mix of good things since chocolate and peanut butter met. Keep on sending us more of these as well as vintage/military Jeeps and carnage/breakage/sideways ones! Don't forget the most important part of all: Tell us who is in the photo (first and last name), where it was taken, what year/type of Jeep, and any other fun backstory info. And tell us who you are and where you're from if you're not the one in the photo. Make sure the photo is high resolution: at least 1,600 by 2,000 pixels, or around 2 megapixels, and a JPG (maximum quality), BMP, or TIFF file. No PDFs. Email the photo and story to jpeditor@jpmagazine.com with the subject line "Sideways."



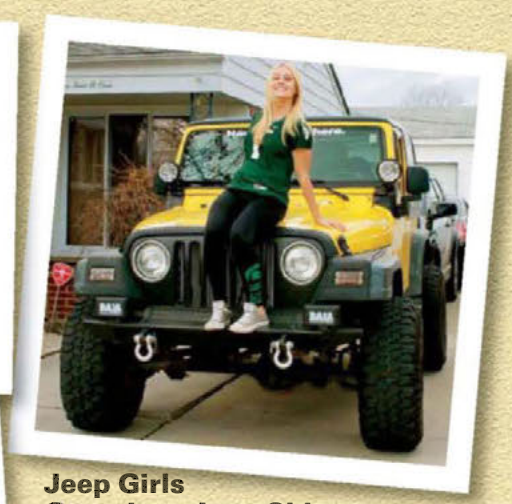
Dad's Jeep Chix

Neal Lawson sent in this photo of his daughter Megan with her '98 Jeep Cherokee XJ in the desert near Albuquerque, New Mexico. "This is one of the few times her Jeep hasn't been covered in mud." Dad said she "attacks obstacles without hesitation (or any hint of common sense)" and now that she's attending New Mexico State University, they don't get to wheel together as much as they used to. Nevertheless, she's luring the new beau to the wheeling side.

Life-Long Jeep Chix

Meet Mylielynn Harper from Price, Utah. She was born and raised in a Jeep and off-road family. This '97 Jeep TJ has been modified with Rocket air-intake, Teraflex long-arm kit, Rubicon shocks, Magnaflow exhaust, and much more. In fact, on that "much more" front, the body was removed and custom painted and the interior was Rhino-Lined. She said this TJ "is our most capable trail rig we have owned."







Jeep Girls Grow into Jeep Chix

Thomas Wagner authored this backgrounder: "This is Rebecca Wagner of Saint Clair Shores, Michigan, with her '00 Jeep TJ. She had wanted a Jeep since she was a little girl, so Daddy surprised her with new summer wheels after her first year of college."

E-Ticket Chix

Proud father/husband Bryan told us this tale: "This is my wife, Robin, and our daughter, Brooke, with our '13 Jeep Wrangler Unlimited Rubicon. Just had a 3-inch BDS lift and 35-inch BFG tires installed and went out to the Uwharrie Forest in North Carolina to have some fun on the dedicated OHV trails. This was the first time my daughter Brooke has been out wheeling. She said she thought she was on a roller coaster ride at Disneyland."

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